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ORIGINAL ARTICLES.

VARICES OF THE ŒSOPHAGUS.*

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The œsophageal veins are divided into three groups. 1. Those tributary to the superior vena cava by way of the inferior thyroid, pericardiac, posterior mediastinal, intercostal and the superior diaphragmatic through the azygos and hemiazygos veins or occasionally directly into the trunk of the vena cava. The branches of the inferior thyroid at the level of the larynx form numerous anastomoses with one another and with branches of the superior thyroid. 2. The tributaries to the portal system send their blood through the left coronary vein of the stomach. 3. A few insignificant and irregular branches communicate with the inferior vena cava through the inferior diaphragmatic veins.

All the veins form a thick network of fine radicles, far surpassing the arterial anastomoses. The veins are most numerous in the lower part of the œsophagus. There is an internal plexus in the submucosa and an external or pericœsophageal plexus which form numerous anastomoses through the muscular coat. The pericœsophageal veins are grouped into anterior and posterior bundles, which pass to the cardiac orifice with many connecting twigs.

Besides the connections between the general and the portal circulations by way of the œsophageal veins, there are two other means of establishing collateral circulation in cases of portal obstruction—the system of Retzius, consisting in the venous radicles from the abdominal wall that communicate with the mesenteric veins and flow into the inferior vena cava or one of its branches, and, secondly, the hemorrhoidal veins that communicate with the inferior mesenteric and the internal pudic.

[The author omits the communication through the veins of the round ligament of the liver.]

It has long been recognized that varicose enlargement of the œsophageal veins may take place, and almost always in conjunction with some disease of the liver that by contraction interferes with the flow of blood in the portal system. In the reported cases no cause is assigned for the enlargement of the œsophageal veins, while those of the system of Retzius and the hemorrhoidal veins are not implicated—at least, no mention is made of the veins of Retzius, while Charcot states that the hemorrhoidal veins are never enlarged in hepatic cirrhosis, but are constantly found contracted and impenetrable (undurchgängig). [It would seem that the author must have a definite series in mind.]

In 1858 Faurel and Diberder reported two cases of varix of the œsophagus

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that ended fatally on account of hemorrhage. Bentz in 1884 could collect only sixteen cases out of the entire literature of the subject, to which he added three of his own observation. Sundberg in 1886 published another case.

The obstruction in the portal circulation is referred to hepatic cirrhosis in most cases. Blume found that while in a few cases the interference with the circulation was slight, in most instances it was marked. From the formation of collateral blood-paths, the obstruction was postponed and œdema and ascites were generally wanting or occurred late. Besides hepatic cirrhosis, syphilis of the liver, all contracting processes and interstitial connective-tissue overgrowth, Zenkler considers senile atrophy as prominent in the etiology of œsophageal varices. [Evidently cirrhosis is used in a narrower sense than is customary in this country.] Yet varices occur in only 21 per cent. of his cases of chronic atrophy of the liver and in only 5½ per cent. of those of hepatic cirrhosis. The ages of his patients varied from thirty-nine to seventy-one. Two further cases are of interest, those of von Frerichs and von Sundberg, in which a thrombus in the portal vein led to the formation of varices.

The course of the varicose veins, as Blume found by injecting the coronary vein of the stomach, is as follows. In the neighborhood of the cardia, a few centimeters above or below, several veins rise from the deep tissues under the mucous membrane and ascend perpendicularly in the œsophagus, usually in two or three cords. The varices are usually found in the lower third of the œsophagus. Blume holds that cases depending on general venous stasis progress equally in the whole length of the œsophagus, while those depending on the back flow of blood from the portal system begin below and gradually extend upward. The first chart of the Kast-Rumpel atlas of pathological anatomy affords an example of œsophageal phlebectasia depending on general venous stasis. Klebs pictures varices projecting on the surface of the lower part of the œsophagus and appearing as long blue ridges thickened into knots here and there and for the most part covered by a very thin layer of tissue.

The principal symptom, or rather usually the only clinical symptom, of the disease is hemorrhage. Klebs says that injuries to the varices can bring on dangerous hemorrhages, especially when they pass over the rim of the cardia and come in contact with the gastric juice. Several times section demonstrated the exact place of injury to the vein. At other times nothing noteworthy was found; the examination, however, was made not for extravasations of blood, but always for real hemorrhage and less of substance.

The present case was that of a girl aged six, healthy till two years and a half before death. At that time frequent headaches and occasional pains in the body set in and the child became pale and weak. There was no digestive disturbance except frequent diarrhœa. Vomiting never occurred. In the spring of 1892 repeated hæmatemesis set in with pains and diarrhœa which improved under treatment with opium and ice. In the summer of 1893 the child again came under medical care on account of indefinite distress in the abdomen. No further details are known till October 14, 1893, when the child was brought to the Polyclinic in a condition of profound anæmia, with the statement that she had had a violent hemorrhage the evening previous. Examination of the chest, especially of the heart, revealed nothing abnormal. The abdomen was somewhat enlarged, bloated, but in no place painful or tender. The diagnosis was made of gastric ulcer and opium and ice were prescribed, followed three days later with pills of silver nitrate. Hæmatemesis occurred again on October 19th in greater amount than before. The vomited matter was bright red mixed with dark clots. On the next day the hemorrhage recurred with bloody coffee-ground stools. The pulse was small and very weak. The temperature rose at noon to 39° C. The child lay in such a condition that the propriety of saline injections was considered. In the evening the temperature had sunk to 37.6° C. and the pulse, though extremely weak, was stronger. Its frequency was 160. The next day the patient was in a condition of extreme weakness and quite apathetic, complaining only of thirst. On October 22d the pulse was 156, sinking on the following day to 132, and thereafter ranging from 120 to 130. Nourishment was maintained with iced milk and the only drug used was opium. On October 30th, ten days after the

hemorrhage, marked restlessness ensued, manifested by convulsive movements of the extremities and especially of the facial muscles, while speech became impossible and much gnashing of the teeth was audible. These symptoms increased and in addition choking on attempting to drink, smacking and shouting sounds occurred. Thus in a few days a chorea of high grade developed. The disease did not continue long at this pitch, and from November 10th a considerable retrogression was evident. Speech returned first, while the choreic movements of the extremities continued for a time. The last trace had disappeared by November 18th; that is, the disease had spent itself in three weeks.

From November 9th a systolic bruit was audible at the apex and the base of the heart as well as over the larger cervical vessels. About the same time enlargement of the heart, both to the right and the left, was demonstrable, features which left one in doubt as to whether they should be ascribed to marked anæmia or to chorea. The vomiting had stopped on October 20th, and the child gradually recovered from the profound anæmia, so that about the middle of December she could leave her bed for an hour at a time. The diet was regulated most carefully. Till the beginning of December nourishment consisted only of milk and infant's meal; then it was extended to eggs, tender meat and green vegetables. All this time there were no gastric symptoms; the appetite was good; only occasionally was complaint made of a slight oppression in the region of the stomach and at times the abdomen was slightly distended but without showing any fluctuation. At 3 P.M., December 26, 1893, violent hæmatemesis set in. Shortly before the patient complained of distress and pain in the stomach. About three-quarters of a liter of bloody gastric contents were vomited, having an acid reaction.

An error in diet was responsible, the child having taken a piece of potato against her mother's will. Vomiting returned the next morning and on January 9, 1894, the child died, apparently exsanguinated. The pulse had risen to 160 and so remained till death. There was no fever.

On autopsy the next day the heart was found greatly dilated, especially in the ventricles. The heart muscle was lax and of a yellowish-red tint. Through the endocardium shone intensely yellow flakes and stripes. The free edge of the mitral valve was slightly thickened; at the line of closure of the outer leaflet there was a soft reddish-gray translucent deposit the size of a cherry-pit. The foramen ovale was closed. There was nothing significant about the lungs, nor was there any pleural or pericardial effusion. In the abdomen was about 400 c.c. of milky, turbid fluid containing 0.54 per cent. of fat. The peritoneum was free, the lymph-nodes were not enlarged. The liver, spleen and kidneys were fatty degenerated, conditions that, with the general adipose deposit that was especially marked in the abdominal parietes and the mesentery, were to be ascribed to the anæmia. The spleen was very large. A careful dissection of the portal vein, thoracic duct and vena azygos was negative, and the single positive finding was the existence of marked varices in the œsophagus. I have prepared a water-color to represent the clinical picture. The veins ran mostly in two cords, of which the larger one, on the right, consisted of dark blue twisted and knotty veins about the size of a lead pencil. These veins took their origin from two trunks that, rising under the mucous membrane through the muscular coat, about two centimeters below the cardia, came together like the prongs of a fork and ascended in the œsophagus perpendicularly, giving off a lateral branch at the point of union. The latter also rose perpendicularly, but without marked enlargements, and was visible through the mucous membrane as a more diffuse, blue-black streak. Between the two main trunks were numerous anastomoses that were especially numerous above, and there the mucous membrane took on a diffuse dark redness. At the level of the cricoid the injection ceased and the normal pallor of the mucous membrane took its place. No lesion was discoverable in the mucous membrane which could be considered as the source of hemorrhage. In the loose connective tissue between the trachea and œsophagus there was visible a varicose venous cord as thick as a pencil and about six centimeters long. The gastric mucosa was exceptionally pale. There was no varicosity on the outside of the stomach nor elsewhere in the portal system.

The diagnosis of gastric ulcer, depending on the symptoms, was made with some hesitancy, since previous experience is against its occurrence under the age of ten. Ewald and Hennoch have recognized gastric ulcer in children, the former's two cases lacking only hæmatemesis to complete the typical picture. Brinton in 226 dissections of gastric ulcer found it twice in children under ten.

After the occurrence of hemorrhage in the present case in the fourth year, it occurred a year and a half later with renewed violence in spite of every treatment. Previous medication with silver nitrate and after the last hemorrhage with liquor ferri sesquichloridi was abandoned as useless; the only rational treatment seemed to be the strictest diet. How important this was and how urgently it was indicated without our knowledge the section revealed, as well as the fact that error in diet even to the extent of swallowing a piece of potato proved to be the direct cause of fatal hemorrhage through laceration of a vein. This conclusion is not weakened by the failure to find the lesion, since death followed on the thirteenth day after the last hemorrhage.

The distention of the abdomen that is occasionally mentioned in the history found its explanation at the necropsy in a slight ascites of milky consistency. [Without the positive statement that the abdomen was dull, at least in the dependent portions and in the explicit absence of fluctuation, one would naturally attribute the enlargement to tympanites.] Such an exudate, according to Quincke and Senator, arises either through mixture of chyle or from fatty detritus. Through an unfortunate accident microscopical examination, the principal test, was prevented. If we had to deal with an ascites adiposus, as Senator has designated it, the microscopical examination would have shown cellular elements. According to previous experience, the fact that 0.54 per cent. of the fluid consisted of fat does not contribute to the certainty of diagnosis. The rich fatty degeneration of organs and the fatty infiltration supports the conjecture that the fluid was an ascites adiposus. Klebs has mentioned a case in which he showed such an ascites to have arisen from the fatty degeneration of the mesentery. That this ascites could have led to stasis and consequently to the formation of œsophageal varices is disproved by its small quantity, and it is to be considered as an accident, not an etiological factor.

Highly interesting, though not properly belonging in this discussion, is the onset of chorea immediately after the violent hemorrhages. Although there is nothing in the history about an earlier choreic condition which might have been exacerbated, the present choreic seizure certainly affords an example of the dependence of the disease on anæmia. Its rapid onset and speedy recession—the entire duration of the attack being scarcely three weeks—show the causal relation of the hemorrhages. Similar cases are few in medical literature. Litten's work on the etiology of chorea mentions the frequent occurrence of chorea following anæmia [not due to hemorrhage]. Stephen MacKenzie cites 439 cases, in about 20 per cent. of which a high grade of anæmia existed. The disease is also common after pregnancy, disturbances of menstruation and during childhood, especially in the female sex, and these facts lead Joffroy to term it "nervose cérébrospinale d'évolution." Litten observed in a primipara in the eighth month, immediately after venesection, choreic movements in the face and arms, spreading to the whole body after a repetition of the venesection. After delivery which followed rupture of the membranes the patient died of exhaustion. A similar case of chorea set in on the sixth day after violent nose-bleed and also ended fatally. [The similarity is not very evident. The former case with repeated venesection and premature labor following rupture of the membranes would suggest uræmic eclampsia.]

To return to the findings of the autopsy. The case must be included with some of Rokitansky's and Eberth's as presenting no appreciable obstruction to the circulation. Eberth has indeed considered gastric catarrh of twelve years' duration in a man of forty as an etiological factor in the production of œsophageal varices, and Duret has advanced the hypothesis that normal respiration could bring on an ectasia. During expiration there is increased pressure in the portal system, which suddenly sinks in inspiration. The vessels dilate and the suction of the enlarged thorax causes a rapid determination of blood in the direction of least resistance. Now as soon as the liver affords an

obstacle to the flow, the connection of the portal vein with the principal veins of the thorax through the œsophageal veins affords a way around the portal system, and the ever-recurring distention of the veins will finally bring about a permanent ectasia. But if an everlastingly (unendlich) frequent condition [chronic gastric catarrh] and a normal one [respiration] tend to produce this dilatation, why are not varices of the œsophagus more frequently observed?

The youth of the patient has no decided bearing on the etiology of the affection. I pass over the question whether we must assume a congenital anomaly of the œsophageal veins or a diminished resistance on the part of the vascular walls which gradually allowed the ectasia to develop under circumstances of impeded circulation somewhere, and I would report the case only as a casuistic example of a strange abnormality of the veins of the œsophagus.

GASTRO-ENTERITIS OF CHILDHOOD.*

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Night before last there was brought to the hospital a little Arabian boy who exhibits so many peculiarities that I have concluded to present his case.

The mother being unable to speak English, the history which we get is vague. The child was weaned two months after birth, and has been reared on the bottle for the remaining three months of its life.

It is much emaciated and the skin is wrinkled like that of an old, old man. The baby is pale, dull, inactive, but it has no rise of temperature. The abdomen is very full; the line of separation between the stomach and the colon can almost be seen through the skin. The stomach and intestine, being thus distended, are tympanitic on percussion. There is very little tenderness of the abdomen, otherwise the child would cry loudly when I percuss and palpate. Yesterday the evacuations were very abundant in number and bulk. In character they were watery and greenish, containing considerable undigested milk. The mother gave us to understand that the child had been sick five or six days, with frequent watery stools and vomiting. This is a condition that will be encountered very often, and will be seen much more frequently among the ignorant than the better classes. It is a common condition attending the bottle-fed child. It is a cause of death for about half of all infants. One-third of all persons born die before completing their second summer. On account of acute illness, peritonitis, shortly after the birth of the baby the mother was unable to nurse it, and she shows an anxiety about the infant which is truly pathetic.

Parents frequently have begged me to do something for a child, and on asking a few questions I have found the trouble to be with the diet. For example, in one case I was told that the child was extremely fond of pickles and would eat little else. Errors in diet often do not suggest themselves to mothers as the cause of the illness of children. The food of breast-fed children enters the stomach with practically no access to the air. In artificial feeding, however, the food is frequently contaminated with atmospheric bacteria, and catarrhal enteritis follows from the irritating quality of the food. As a rule, there is not merely an enteritis, but a similar inflammation extending throughout the entire gastro-intestinal tract. We are not able to gain any definite information as to what this child has been fed. It may have been reared on sugar and water, or on potato pap, or on solid food, but the probability is that the nutriment has not been appropriate to the delicate condition of the child's digestive organs. Only a few recurrences of the diarrhœa could be tolerated in the present weak state of the child, and the outlook in any such case depends upon the reserve of vital strength.

The first point of treatment is to clear out any accumulation of irritating sub-

*A clinical lecture at Buffalo General Hospital.

stances in the alimentary tract. It is the common practice and, I think, a very good practice, to begin the treatment of any such case with a dose of castor oil. A good big teaspoonful would be the proper dose for a child of this age. Castor oil is a safe remedy even in full doses, any excess being carried through the bowel, but we must bear in mind that too liberal use will cause griping. It is, on the whole, much better to give a dose which will assure the thorough clearing out of the intestine than to allow any chance of delay. In addition to the cathartic treatment, it is well to wash out any mucus that may be in the large intestine by copious enemata of water about the temperature of the body, unless there is some fever, when the water may be a little cooler. Boric acid is often added to the water, to make a saturated solution. Some, even with infants of this age, begin their treatment with lavage of the stomach. Those who have used it are very warm in their praise of this means of treatment, but personally I have never used it in so young a child as this. The stomach tube used in such cases is usually a catheter. It seems to me that the washings can be conducted by the natural processes, for such children, as a rule, are very thirsty, particularly if they have any degree of diarrhœa, and they will take almost as much water as one will give them. They will usually take the water with greater avidity if it is sweetened a little or if it is flavored with some aromatic oil which in itself is a good antiseptic and carminative. Vomiting, also, is not uncommon, and thus the stomach can be washed out quite thoroughly. I would not, however, condemn lavage of the stomach even in infants.

After clearing out the stomach and bowels, the next consideration is what to feed the child. If you see the case at the beginning of an acute attack, it is better to suspend all nutrition for twenty-four hours, as the child can much better stand twenty-four hours of complete fasting than twenty-four or forty-eight hours of diarrhœa. By mild sedatives, a few drops of paregoric in water, the child can be satisfied and carried through the twenty-four hours. In less acute cases, however, nourishment is demanded. In the present case, for example, not knowing what the child has been taking, I should advise milk diluted two or three times with water. The food should be sterilized and the milk, by preference, peptonized. If after twenty-four hours the diarrhœa has not been checked, we shall know that a different treatment is needed. Under these circumstances we should suspend the milk and give beef-juice, which is always readily assimilated by infants. By beef-juice I mean the extract made by pressure from fresh raw beef, seasoned slightly and fed warm but uncooked. This is not suited to be a permanent article of diet, but is intended to tide over an emergency.

As a rule one will not need to resort to much medicinal treatment. This child, for instance, has no desire for food and will require no paregoric, which, of course, is not to be given unless demanded by the cravings of the child for food. If the case is still milder it is well to check the process of fermentation by the administration of certain drugs, and for a child of this age or a little older I know of no remedy better than bismuth subnitrate suspended in mucilage, perhaps with a little prepared chalk added. The common error in such treatment is in not giving large enough doses. Quarter or half grain doses for an infant like this would do no good whatever. A fair dose would be from three to seven and a half grains (0.20–0.50). The dose is practically unlimited, and while one does not want to fill the child's stomach with this insoluble salt, its action is local and largely mechanical, so that a minute dose is worthless. One must bear in mind that the main treatment is the care of the diet and that all medication is, to a degree, secondary. When, as in the present instance, it is necessary to feed before the digestion has recovered its proper tone in order to save the child from collapse, small quantities of beef-juice with from one to five drops of brandy, depending on the age, may be given at frequent intervals, even so often as every hour.

On account of the yeasty growth on this child's tongue I have prescribed calomel to be given for a short time only, in doses of $\frac{1}{100}$ grain (0.006) after each feeding. The child has also been taking peptonized milk diluted with an equal quantity of water, and under this treatment vomiting has ceased, diarrhœa has diminished very much and the child has been quiet and contented. I rather expect after twenty-four hours to be able to withdraw the

mercurial and to increase the nutriment by adding to each feeding a little beef-juice. I shall feel my way very carefully, for one or two upsettings of digestion might be enough to carry the child away.

Some might call this a cholera infantum. It is a little late in the season for that trouble; cholera also usually comes on with greater severity, with more copious serous stools, and very often the stools are so abundant and watery that the child dies in collapse within forty-eight hours. Commonly, however, the watery stools continue, but the patient either succumbs more slowly or gets well. This child has had its digestion impaired by long-continued errors in diet; there has been induced more of an enteric catarrh than of a cholera. Infantile cholera, though partaking of the nature of an infectious disease, has no specific bacterial cause. There are always bacteria in the intestinal evacuations; when digestion is disturbed the number increases and the variety may also increase, but I believe there has been no particular germ isolated as the cause of cholera infantum.

We must not overlook the child's skin, which is harsh, dry and leathery. This condition is very largely due to lack of nutrition. The child should daily receive a warm bath, taking care not to chill it. It is a common practice to nourish such children further by inunctions of cod-liver oil, which have the objection of causing a very disagreeable odor from the oil becoming rancid. This, however, is a secondary matter, and when children are in a condition of extreme weakness the little additional nourishment that can be introduced by the help of the inunctions may turn the balance favorably.

I think it is rather an open question whether this child will recover. It will depend largely on careful nursing, the supervision of the physician being a secondary matter after he has once laid down the law to be followed by the attendant.

(The child assimilated its food fairly well, but died a few days after, apparently from exhaustion. No autopsy was allowed.)

ERGOT IN THE HANDS OF IGNORANT MIDWIVES DURING LABOR.

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On this subject, so far as I know, there is no literature to be found, but I do not think it at all new to any physician who has spent some years in active general practice.

It is alarming to see what suffering, disease and broken-down constitutions are brought about to the gentler sex through the ignorance of women who style themselves midwives. Having within the last few years had an extensive practice in obstetrics, I have come in contact with many different so-styled "practical," "qualified," "long-experienced," "no-doctor-necessary," and other well-named midwives. Thus I have had occasion to observe from their actions and work that while they pretend and, in some cases, honestly believe, to assist and shorten the sufferings of women who are about to become mothers, through their ignorance they do precisely the contrary. The following cases will bear me out in my statement:

CASE I.—Mrs. K.; Polish. Was called at noon July 4, 1888. On arrival I found a midwife in attendance. The husband, who called me, said that the midwife assured him everything was all right and that the child would be born as soon as labor pains would get strong enough. His patience, however, wore out after waiting a whole night and the next day until noon. The midwife did not seem to like the presence of a physician and treated me rather coldly. On making an examination I found a rather small child, with breech presentation, and very low down in the vulva. On asking the midwife how long the child had been in that position, she said, "Since twelve o'clock last night," thus making twelve

hours without any progress. Thinking it strange for the child to be in the one position for twelve hours when it seemed as though it might be born with one good labor pain, I made a more thorough examination. I found the body of the child in the vagina, the uterus high up, and the cervix uteri in a spasmodic condition locked around the neck of the child, holding the head within the womb. I asked the midwife if she had given any medicine and she replied, "Why, yes, doctor, right along since last night, even before the child came down." I called her into an adjoining room and asked her if she knew the reason why the child had not been born sooner. "Yes, doctor," she answered; "her pains are not strong enough." I explained to her the condition that was present and that it was due to giving too much medicine; but she did not seem to understand, nor did she seem to believe my words. I did not care to take the case from her, but advised her not to give any more ergot. On leaving the house I told the husband in case the child was not born in two hours to call me. The next day the husband came to my office to pay me for my call, and I learned that the child had been born one and a half hours after I had left. I also learned from him that the midwife had administered between two and three ounces of ergot within twelve hours during labor the preceding night.

Case II.—Mrs. B.; German; January 18, 1889. On arrival I found a midwife in attendance. On examination I found the cord presenting, the os uteri in spasmodic contraction; the cord very thick but no pulse in it. Midwife had administered ergot all night, but no good labor pains came. After discontinuing ergot for some hours, strong labor pains set in and the os dilated rapidly. The pulse not returning, I suspected the child was dead, the woman being a primipara, over thirty years old and with a contracted pelvis. I administered chloroform and with instruments delivered a dead child. Death was caused by the pressure of the head of child and the spasmodic contraction of os uteri upon the cord.

Case III—Mrs. S.; Polish woman; 1890. Midwife in attendance all night and all day. From what I could learn from her there had been a shoulder presentation at first, but, as she remarked, with the help of ergot and working with difficulty she managed to get an arm down, at which she kept pulling and working until she got tired out. I administered chloroform and delivered by the feet a dead child that by all appearance and according to the belief of the mother had been dead some hours, as she did not feel any life after the arm had come down.

Case IV.—Recently I was called to a Polish woman in labor. Midwife in attendance all night and had given ergot. On examination I found an arm presenting over and in front of the vertex. I administered chloroform, pushed the arm from the head over the face, applied forceps to the head and delivered. Mother and child both did well. I think that had the midwife succeeded in getting down the arm the child would have shared the same fate as the one referred to in Case III.

Case V.—Last winter, while treating Mrs. H. for la grippe, I was asked the cause of certain pains and weakness in the lower part of her back and loins. From answers to questions I remarked that she must have womb trouble, which, however, I would not be able to ascertain without examination. I told her to call at my office after she was well of la grippe, where upon examination I found a bilateral laceration of cervix and a ruptured perineum. The patient's history was as follows: Nine years ago she had had a difficult labor, a midwife attending her and giving her medicine. The child issuing with feet presenting, the midwife took hold of them and pulled forcibly, causing her great pain. She had immediately alarming hemorrhage. A physician was called, who examined and told her that she had sustained rupture of the womb. From that time on patient had always complained; had also had several miscarriages since, but none previous to that labor. I advised her to undergo two operations, to which she consented and was restored to health.

I could cite more cases if necessary. These five cases show sufficiently to what extent ergot is administered by unskilled individuals who out of a valuable remedy make an unfit and dangerous one. I believe that the drug is even too extensively used in the hands of many physicians, and I must admit that I myself have given it during my early years of practice in cases where I should hesitate

to do so now. I have used it less and less, until I now hardly ever have any use for it, and I find that I have better success and better results. Labor is a natural process and should be left in the hands of nature unless complicated. It is true that we very often can assist nature, but as soon as we interfere with a given law or process of nature we are apt to have bad results.

During labor ergot should not be given before the head of the child has passed through the os uteri; for if we do give it before dilatation is sufficient to admit the head we stand in danger of laceration of the cervix. Again, if the head of the child presses down upon a firm perineum which does not readily yield and we give ergot to produce strong labor pains, we stand in danger of laceration of the perineum.

The conditions where ergot is indicated during labor are:

1. Where the perineum is sufficiently softened and yielding, but the head of the child is very large and firm, so that the bones do not shape themselves to the outlet of the pelvis, and thus require extra strong labor pains to expel the head.

2. Again, where the head presses down upon the perineum and labor pains have stopped altogether or are too weak to have any effect.

3. And lastly, where labor has been very severe and tedious and the mother is in an exhausted condition and unwilling to suffer any longer.

The suffering and ill-health ergot produces when administered at the wrong time is not to be expressed by words. But it is not the drug that is at fault, but the individual that handles it. Why not, then, stop the hands that administer a drug which not only causes suffering to noble mothers, but brings even death to beings yet unborn?

This uncalled-for administration of ergot should be remedied, and the remedy to be used I leave open to discussion.

COMMUNICATIONS.

A MECHANISM OF INTUSSUSCEPTION—SPECIMENS ILLUSTRATING EACH STEP IN THE PROGRESS OF INFECTIVE APPENDICITIS.*

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I. *Experiment.*—I shall expose the ileum of a rabbit, and it will then be observed that when it is touched with carbonate of sodium, contraction of the circular fibers of the bowel at the point touched will take place in from fifteen to thirty seconds. The longitudinal fibers of the bowel still carrying on peristaltic movement (a reversed peristalsis, by the way) will invaginate that portion of the bowel which is in a state of firm contraction. I do not know the exact value of this experiment except that it shows the mechanism of one form of intussusception. We know that certain ptomaines produce muscular spasm, and it is fair to assume that some cases of intussusception are due to a poisoning of the muscular fibers of the bowel as in the experiment. In post-mortem intussusception as I have watched it, there has been paralysis of the circular fibers of the bowel and an adjacent segment of bowel has dropped into the relaxed portion, almost the reverse of the mechanism demonstrated in this experiment.

APPENDICITIS SPECIMENS.

II. Appendicitis I believe to be an infective exudative inflammation of the appendix vermiformis, which follows the production of an infection atrium of any sort in the mucosa or in the peritoneal

*Read by invitation of the Board of Directors of the Philadelphia County Medical Society, November 28, 1894.

covering of the appendix. I believe that when the infection atrium has been produced bacteria at once enter the lymphoid structure and the cellular coats, and that then the stage of exudation begins and the tissues are compressed by the exudate. There is no doubt that in the majority of cases we have an exudate compression which is fatal or has a tendency to be fatal to the lymphoid and cellular coats, and the reason is because the lymphoid and connective tissues and mucosa are confined within a narrow tube of muscle and peritoneum. In the colon, when infection begins and exudation takes place, there is abundance of room for swelling, and the interstitial exudation does not lead to compression and anæmia. In the narrow appendix there is not room. The lymphoid tissue cannot do its work as a strainer of bacteria, and therefore the lymphoid, mucosa and connective tissue forming the inner tube are compressed to the point of strangulation in many cases. If not to the point of strangulation there is produced compression anæmia, which allows more rapid toxic destruction of the cells, and the toxines produced by the bacteria which have entered the infection atrium cause destruction of the cells before nuclein can be poured out and the leucocytes do their work. Thus there is frequently rapid destruction of the mucosa and lymphoid coats which should act as a protecting coat, but which is destroyed and becomes a prey to bacteria because it is under compression.

Very early proliferative endarteritis commences, and this occurs, as you will remember, in a small terminal artery, for practically the only arterial supply of the appendix is from a solitary terminal artery. If a branch of the artery becomes occluded, we have a round punch-hole slough formed at the point supplied by this branch. If more of the artery becomes obliterated, we frequently have complete gangrene of the appendix. Only a few hours are required for an obliterating endarteritis to become sufficiently marked to lead to destruction of all parts not supplied with blood by bacteria which are ready to pounce upon such parts. I think that usually in the very early stage of the infection we have a mixed infection. Streptococci are apt to be present, and these with other bacteria send the temperature up. The temperature from infection by streptococci or from mixed infection may be quite high, whereas when the infection is from the colon bacillus the temperature is apt to be not high, but about 100° to perhaps 101° during a most violent attack of infective appendicitis going on to death. This statement in regard to temperature I am almost prepared to make as a direct statement, but I shall wait for more observations before asserting that a high temperature indicates streptococci or mixed infection, and that a low temperature indicates a colon-bacillus infection. I am almost certain, however, that the toxine of the colon-bacillus does not send the temperature high.

Specimens.—The first is a normal appendix removed post mortem.

The next specimen shows the effect of exudation into the appendix a few hours after infection has taken place. The inner tube, composed of the lymphoid and connective tissue, is distinctly swollen.

In the third specimen we find a little rhexis, all the structures being infiltrated with blood.

There is a complete rhexis involving all the tissues in the fourth specimen, the fibers of all structures being separated by effused blood. In the case from which the specimen was removed the wound was very septic and no granulations formed for eight days. The patient then developed pneumonia of the right side, and after the pneumonia was well under way the appendix wound began to granulate and the patient recovered.

The fifth is another early specimen, in which there is a pin-hole puncture. In this case the appendicitis had lasted about forty-eight hours. The artery being obliterated at this point allowed a small pin-hole opening to form.

The sixth specimen, an inch of which has been removed, shows very nicely how the interstitial exudation causes the inner tube to be compressed by the outer tube.

Here is a specimen in which the bacteria have been confined to the appendix for several days and then suddenly passed through the mesappendix, and the patient developed acute septic peritonitis.

Here is another specimen in which a small punch-hole perforation formed and was immediately walled in by lymph. The appendix was quite free, except at the tip, where this mass of exudate held it.

This is a chronic ulcerating appendix.

After the acute stage of infection is passed the ulceration is apt to continue, because the appendix is a nook in which bacteria persist, and after the mucous membrane is destroyed the bacteria are apt to keep up a vigorous onslaught on the exposed tissues. These are the appendices that produce fatty concretions. I have found that concretions in the appendix are phosphatic, fecal, or fatty. Some of these concretions contain 50 per cent. of fat. It occurred to me that possibly a retrograde change in the lymphoid might account for it, and consequently I submitted the lymph coats of several appendices for examination. From normal appendices I obtained 8 per cent. of fat; from appendices with small ulcerated spots 19 per cent.; and from appendices with general ulceration of the mucous and lymphoid coats 26 per cent. This showed that the proportion of fat in chronic ulcerating appendices was very large, and if the products were confined in the tubes it is probable that these fatty concretions come from that source.

Before gangrene in the appendix has occurred we sometimes find gangrene of the mesappendix from thrombosis of the veins and obliterating endarteritis. Sometimes the appendix seems to receive enough nutrition from the cæcum to live a few hours longer than the mesappendix.

After infection has continued for some time—a few years—we frequently find excessive hypertrophy of the appendix. This specimen shows this hypertrophy in an appendix which was the seat of chronic ulceration. Most of the time this patient was without symptoms, but at times he was compelled to give up work. I found the appendix extremely tender on palpation, and learned that of late he had referred the pain to that region.

In some cases after destruction of the mucosa gradual wasting of the lymph coat takes place. This is shown in this mount of four transverse sections. In the first, the mucosa and submucosa are swollen with exudate. In the next, the mucous coat has disappeared and the lymphoid has almost disappeared. In the next, nothing but the muscular and peritoneal coat remain, and in the last there is no lumen and only a little remnant of the muscular and peritoneal coats.

In cases in which the terminal artery is involved quickly in proliferating endarteritis the entire appendix may become gangrenous. Here is an appendix which became completely gangrenous in thirty-six hours. No portion of this appendix remained alive, and there was an opening of about two inches in the cæcum.

After the various structures have disappeared, leaving little but the muscle and peritoneum, there may be marked symptoms from sclerosis of the nerves. The nerves of the appendix not destroyed become involved in the cicatricial contraction and frequently keep up a great deal of disturbance in this vicinity, and not infrequently the movements of the colon are inhibited. As a result we are apt to have chronic constipation. I have now removed several such stumps, and the patients have immediately felt relief.

The patient from whom this specimen was removed had had several attacks of appendicitis, and on removing the appendix I found that it was filled with nematoid worms. The cæcum is a favorite resort for the oxyuris, and I have no doubt that the presence of the oxyuris in the appendix not infrequently gives rise to an infection atrium.

Here is a specimen showing three distinct cavities with contractures between. It was extremely firmly adherent. This patient had a number of mild attacks, and once an abscess opened externally, and finally we were obliged to remove this stump containing three well-marked cavities similar to what we often see in pus tubes.

Among the latter forms is one represented by these two specimens. These were removed from a professor in one of our colleges. He was unable to stand and was compelled to give up his work for a year. On removing the appendix I found these two portions some distance apart. The little short stump represents the healed appendix. The lower portion was an inch and a half away from the stump. It was a focus of infection, and was kept alive by adhesion to surrounding tissues.

If we were to consider the complications of appendicitis this evening we should open up an enormous field. I shall simply show a specimen belonging to Dr. Willard. Here we have an abscess of the liver, which is not an infrequent complication, and probably occurs oftener than is generally supposed. In very mild cases, and in cases in which the infection has

been in progress for not more than two days, I have found infected thrombi in the mesappendix, which could easily lead to emboli and abscess of the liver. I am quite sure that this occurs in cases where appendicitis is not suspected. It is not necessary that there should be gangrene or extensive disease of the appendix to have mesenteric thrombosis and portal embolism.

SUBCORTICAL GLIOMA OF THE CEREBRUM AFFECTING PRINCIPALLY THE ARM CENTER; REMOVAL: RECURRENCE OF THE GROWTH; SECOND OPERATION; RECOVERY.*

ALFRED C. WOOD, M.D., PHILADELPHIA.

For the privilege of presenting the following report of what proved to be a rare and interesting case I am indebted to Dr. H. C. Wood, in whose service at the University Hospital the patient first came under observation, and Dr. J. William White, to whom he was referred by Dr. Wood for surgical intervention.

Briefly, the history is as follows: †

"W. B., aged twenty-eight years, of Irish descent, by occupation a bartender, states that he has always enjoyed good health until the beginning of the present trouble. Careful inquiry failed to elicit any family predisposition which would have a bearing on the present condition. According to his account he first noticed, in August, 1892, occasional twitchings in the left hand; these have recurred at irregular intervals up to the present time, until now they sometimes happen several times a day. They begin with a tearing sensation in the hand, movement and sensory disturbances, however, coming on almost simultaneously. The arm is commonly flexed at the elbow by tonic contractions, though the hand is clonically and furiously moved. Sometimes the attacks are not attended by loss of consciousness; usually, however, of late, the first movements are followed almost at once by unconsciousness and a fall to the ground, there being general muscular relaxation, except that the mouth is commonly drawn toward the left side. On two occasions there have been violent general epiliptiform convulsions. When he first came under observation there was no distinct paralysis of the arm, but a slowly progressive loss of power not yet amounting to complete paralysis has developed. There have been occasional attacks of vomiting. In the early history of the trouble he was free from headaches, but lately these have been more and more frequent and severe. The pain is located in the region of the right temple, and has been at times so acute as to preclude sleep for a whole week. There is also at present a rapidly progressive and severe double optic neuritis, with retinal hemorrhages and large tortuous retinal veins. Thirteen years ago, he says, he was struck on the top of the head with steel knuckles, possibly a little to the right of the middle line; the blow caused him to reel, and he was dazed for a few minutes, but did not lose consciousness. No further trouble was experienced from this accident. The reflexes are normal. The urine is free from albumin and sugar, the specific gravity is 1033, and the reaction is acid. There are no disturbances of the special senses other than the presence of diplopia and some contraction of the field of vision, which latter is evidently the result of the optic neuritis. The symptoms point to the presence of an organic disease affecting especially the motor arm centers in the cerebral cortex, and spreading upward to those of the face; possibly, also, affecting slowly the leg centers, as there seems to be some weakness of the left leg.

"I do not think it possible to make an absolutely positive diagnosis as to the nature of the organic disease, but I have no doubt from the way in which the case has progressed that there is some form of tumor present. The possibility of syphilis has been carefully considered and put to one side by a very active specific treatment which failed to produce any

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†Abstracted from a clinical lecture delivered at the University Hospital upon the patient's case by Dr. H. C. Wood, in January, 1894.

improvement whatever. The important practical question is whether the tumor springs from the meninges or arises within the brain. Here again the diagnosis is simply one of probabilities, not certainties. It is to my thinking improbable that the tumor springs from the meninges. Early in the case pain was wanting, so that the headache from which he now suffers is almost certainly a pressure symptom and not the result of any localized meningitis or meningeal irritation. In the second place, the occurrence of an optic neuritis along with a cortical lesion, situated as high up in the vault as the present must be, would indicate great increase in the brain pressure. A tumor springing from the membranes and so located that in its first inception it would evince its presence by symptoms of irritation of the cortical centres, would, I opine, of necessity have produced, by pressure and secondary changes, complete destruction of the cortical centers by the time it had grown sufficiently to cause the violent pressure symptoms present in this patient. I believe, therefore, that the tumor is of intradural origin. It is probably not tubercular on account of the general good health of the patient, and it must therefore be in all probability sarcomatous or gliomatous. After a very careful consideration I have come to the conclusion to recommend surgical interference for the following reasons: The case is progressively going from bad to worse, and must soon end in death if surgery be of no avail; second, it is possible that I may be mistaken in supposing that the tumor arises from within the brain, and if a meningeal tumor should be found the result of surgical interference would of course be most brilliant; third, even if glioma or sarcoma of the brain substance exists, it seems to me possible to remove sufficient of the mass to relieve the intense pressure symptoms, and probably to increase the comfort and protract the life of the patient. I shall therefore send the case to Professor White for operation."

With such a history, in addition to the careful study already made of the case by Dr. Wood, it is needless to say that in the advisability of an operation Dr. White was fully in accord. The consent of the patient having been readily secured, the day previous to that set for the operation the entire scalp was shaved and well scrubbed with soap and warm water, then washed with alcohol and finally douched with a solution of bichloride of mercury 1:1,000 and carbolic acid 1:50, after which the head was covered with an antiseptic dressing wrung out of a solution of corrosive sublimate 1:2,000 and carbolic acid 1:100. The usual preparatory treatment for a patient about to undergo an operation of this magnitude was carefully carried out.

Operation, 1:30 P.M., January 24, 1894. After the administration of ether the cleansing of the scalp was repeated in the same manner as before. As the symptoms detailed above clearly pointed to implication of the arm center of the right cerebral hemisphere, the position of the fissure of Rolando on the right side was marked upon the scalp, having been determined by the method of Mr. John Chiene, of Edinburgh, which is as follows: A moderately heavy piece of paper at least five inches square is folded upon itself by bringing two diagonal corners into apposition, forming a triangle. This angle being one-half of a right angle is equal to 45 degrees. The free margin is then folded over so that it lies forming the angle whose value is one-half of 45 degrees, or 22.5 degrees. Now, by retaining the last fold and unfolding the first the sum of these two angles is obtained, which equals 67.5 degrees.

As pointed out by Thane, the fissure of Rolando starts on the line from the glabella to the inion, at a point 55.7 per cent. of the distance, measured from the former, and runs downward and forward at an angle of 67 degrees for a distance of about three and one-half inches, the lower extremity of the fissure running slightly more perpendicularly than indicated by the line. For practical purposes it is sufficient to measure half an inch behind the middle point between the glabella and inion at the upper extremity of the fissure. If now the angle of the folded paper, which represents 67.5 degrees be placed at this point with the straight edge along the middle line of the head anteriorly, the folded margin of the paper will represent the position of the desired fissure, which stops at three and one-half inches from the upper extremity. It is now well known that the convolutions at the upper end of this fissure control the movements of the opposite leg, while those at the lower extremity the muscles of the

opposite side of the face; between these the centers which govern the arm are located. Having fixed these points on the scalp with an aniline pencil, it remained to indicate their positions on the skull; this was done by means of a fine drill which was forced through the scalp and rotated two or three times to make an impression on the bone. A large horse-shoe-shaped flap with the base anteriorly, and consisting of all the layers of the scalp, was raised so as to expose the motor area, and the hemorrhage controlled by means of hæmostatic forceps. An inch-and-a-half trephine was applied over the arm center, as indicated by the mark on the skull, and the button of bone removed. The exposed dura was of deep purple color and tense and bulging, but was not adherent. The opening was then enlarged above and below with the rongeur forceps, to the extent of two or two and a half inches. Before the operation was begun it was decided to proceed after the method recommended for certain cases by Mr. Horsley, which consists in making an appropriate flap and removing the necessary portion of the bone. After the hemorrhage is arrested sterilized gauze is laid in the wound and an antiseptic dressing applied; the removal of the tumor being deferred until the patient has recovered from the shock of this procedure. After the dura was exposed, however, the amount of tension indicated so high a degree of intradural pressure that it was thought advisable to proceed further. The dura was very carefully divided and turned aside. The convolutions exposed were deeply congested and bulged into the wound, showing unmistakably that the seat of trouble had been exposed. Palpation did not throw any additional light on the condition, as there did not seem to be either distinct resistance or undue softening. An incision into the most prominent portion of the swelling revealed what at first seemed to be a cyst with a wide zone of altered brain substance surrounding it. The tissue around the cyst was dark in color, and contained a few small extravasations of blood, and upon closer examination was thought to be a new growth with secondary central softening, giving the appearance of a cyst. This mass was found to merge into healthy brain substance on its different aspects without any attempt whatever at encapsulation or of sharp demarcation. The removal of this tissue was effected by the cautious use of the knife, scissors and curette. It was impossible to remove it as a whole on account of its soft consistence, and it was therefore taken away piecemeal. There was no way of judging when the tumor had been entirely eradicated, but the operation was discontinued as soon as healthy brain tissue appeared to have been reached on all sides. The cavity left in the brain was about the size of a large walnut. Bleeding points were ligated where possible, a drainage-tube inserted, the wound packed with iodoform gauze to arrest the bleeding which still continued; the wound in the dura was closed by catgut sutures, except at the point where the tube and the gauze came out, the flap stitched in place with silkworm gut, and an antiseptic dressing applied. The operation was well borne, and the patient came up from the ether nicely, suffering only moderately from the shock. As the effect of the anæsthetic wore off it was discovered that the left side of the face was flattened and expressionless, and when voluntary motion returned it was found that there was complete paralysis of the left arm and leg. At 10:30 P.M. of the same day motion began to return in the paralyzed leg, and by twelve o'clock, midnight, the patient was able to flex the limb and move it about. Sensation was not impaired. The course of the wound was satisfactory throughout, the iodoform gauze was removed on the second day, and the drainage-tube two days later; there was no discharge of pus at any time, and healing was prompt except at the point occupied by the tube, which closed by granulation. The paralyzed side of the face soon began to improve and went on to complete recovery. Motion in the arm began to reappear two weeks after the operation, but has made little improvement.

It was soon found that the scalp overlying the trephine opening in the skull was becoming elevated. This condition increased very rapidly until a tumor the size of an egg had formed in spite of continuous firm bandaging. The swelling was at first thought to be due to what is known as fungus cerebri, but it later became apparent that it was a recurrence of the neoplasm. There were no subjective symptoms of intracranial growth.

In May, having made the same preparations as before, a flap was dissected back from the swelling, the opening in the skull enlarged, and a considerable quantity of substance similar in character to that removed at the first operation was taken away. The distinction between the healthy brain substance and the tumor was more pronounced, so that the removal of all the growth could be made more complete and certain. There was very free hemorrhage, which, however, yielded to pressure, the wound was closed without drainage, and the usual dressings applied. The operation was immediately more serious than the first, but the patient again rallied well and was up and about again in a few days.

Since the moment of the first operation there has been absolutely no headache, no recurrence of the spasms, not even an abnormal sensation, and the vision, which was very imperfect before, now seems as good as it was previous to the beginning of the trouble.

Microscopic examination of the tissue removed showed the appearance of a glioma.

The patient left the hospital and passed from observation until about six weeks ago, when he stated that he had been entirely free from all symptoms during the interval. He walked well without a cane, although the left leg is somewhat spastic. The functions of the arm have not improved much. Since leaving the hospital, however, there has been no attempt to improve the condition of the limbs by massage or electricity, so that failure to make greater progress toward the restoration of the muscular tone of the left arm and leg may be due in part to this neglect. There is now some increase in the knee-jerk on the left side, indicating descending degeneration in the cord. The scalp over the seat of the former operation is depressed, as is always observed in these cases if the bone has not been replaced or substituted by a portion from another source. The part seems entirely healthy; there is no evidence of a return of the growth. The patient states that he eats well, sleeps well and is up to his usual health and weight.

The features of especial interest in this case are: (1) The accurate location of the growth clinically; (2) the precision with which the tumor was exposed by the trephine opening; (3) the immediate and complete left sided paralysis, followed by perfect restoration of the normal condition in the face and the return of a very fair degree of function in the leg, while motion in the arm has failed to improve markedly, showing that the arm center has probably been completely removed, while the face and leg centers were but slightly encroached upon at the operation, and although suffering temporarily from the traumatism, have preserved their integrity; (4) the recurrence of the growth followed by its successful removal, the patient remaining well until the present time, now seven months after the last operation and eleven months after the first; (5) the hemiparesis did not precede the spasms in this case, and myotonia was absent. It is claimed by Mills, Sequin, and others that both of these conditions are to be noted in the subcortical lesions of the brain, and in a case recently reported by Diller and Buchanan the convulsions were preceded by paresis.

The present position of cerebral surgery marks one of the great achievements of the healing art, and has been made possible entirely through the agency of modern aseptic technique. We do not now consider it a more serious matter to expose and explore the brain than the peritoneum. Unfortunately the affections of the brain are not so frequently suitable for surgical attack as are those of the peritoneal cavity. However, with the seat of numerous important functions of the brain already determined, with the constantly increasing certainty with which the neurologist is able to definitely locate the exact seat of numerous pathological processes, with the ability to cut down and expose these points with precision through a knowledge of cranio-cerebral topography, and with the present improved operative technique, the legitimate field of surgical interference must grow broader and broader. To-day it is not sufficient to rest with the diagnosis of a brain tumor; but, having determined its presence, it is incumbent upon the physician to extend to the patient the same opportunity for relief that would be granted him in other surgical affections.

It is evident that in order to successfully remove a tumor of the brain without taking the life of the patient it must be situated upon or near the convexity.

From a careful study of the post-mortem records of 600 cases of brain tumor by Starr ("Brain Surgery," 1893) there were found 46 in which an operation was indicated by the general and local symptoms, and in 37 (6 per cent. of the total number) the conditions were such that the tumor could have been easily removed. The average proportion of brain tumors that are favorably situated for removal, as given by various authorities from a study of post-mortem records, is 7 per cent. It is especially interesting to note that in the cases analyzed by Starr the tumor could have been removed easily and with safety to the patient in at least 78.7 per cent. of those in which the symptoms pointed to a growth in an accessible region. There is no doubt, however, that the number will be much greater in the future for the reasons already mentioned.

In regard to the mortality of these operations the same author, from a study of the operations so far reported, finds that in a series of 81 cerebral tumors the growth was successfully removed 54 times; of these 39 patients recovered and 15 died, the percentage of final recoveries being therefore 48.14.

Erb reports a case (quoted by Starr) which is so similar to the one just detailed in many particulars that it is here reproduced.

The patient was a man who had suffered from the general symptoms of brain tumor, viz., headache, vomiting, vertigo and optic neuritis for some months. The development of occasional spasms, followed by paralysis in the left arm and leg, indicated the central convolutions of the right hemisphere as the probable position of the tumor. Czerny operated in November, 1890, and found the tumor to be an infiltrated glio-sarcoma, and removed a part of it, its complete extirpation being impossible. The patient recovered from the operation, was very much improved for eight months, and then began to suffer from the old symptoms. In November, 1891, his condition had become so bad that it was thought best to repeat the operation. The tumor was found to have grown again, and a large part of it was removed. Again improvement was very striking, but at the date of the report—July, 1892—a third operation upon this man was in contemplation, the symptoms having reappeared.

As a result of his studies, Starr states that the large majority of the gliomata and the glio-sarcomata were infiltrated in the brain substance to such an extent as either to have escaped detection at an operation or to have been impossible of excision. When it is considered that this statement is based upon a study of 600 cases, the one here reported must be considered as having terminated unusually successfully.

The cause of these tumors is as obscure as is that of those situated upon other parts of the body. In a large number of the cases a history of traumatism will be obtained, but whether or not this has any etiological bearing it is impossible to say. The patient whose case is detailed above reports having received a blow on the head thirteen years ago. At the time of operation there was no evidence of injury either to the scalp or in the skull.

CLIMATOLOGY IN CIRRHOTIC RHINITIS.*

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The pathological changes in atrophic rhinitis present a subject for much controversy—pathologists differing in their *à priori* investigations. Therefore a clinical *à posteriori* reasoning is accomplished under difficulties which induce factionalism as to whether the tissue metamorphosis is the result of a progressive hypertrophy, or has it its own isolated causes classing it as an affection *per se?* Nevertheless, we have a cirrhotic state to combat. Let it be the result of a hypertrophy, as claimed by some researchers, or the result of a pathogenic coccus or bacillus, as accounted for by others, it still maintains the same course that scleroses do in other organs. That is, a prolific development of tissue cells, in various

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stages from round cells to developed cicatrices, causing the caseous degeneration of epithelium, which result is directly due to a progressive contraction. This contraction, while homologous to the scleroses in other organs, owing to the situation, is more accessible and, consequently, more amenable to treatment by atmospheric changes, and directly subject to increased exacerbations when the surroundings are unfavorable. As for myself, I feel complacent over the fact that climate reveals to me measures of pronounced success in the amelioration and possible cure of this odious disease. As for local applications, my experience has been futile, though at the same time I have persevered. Likewise, I do not doubt that this is the experience of all practitioners in the treatment of this stubborn malady; and hence it behooves the thoughtful rhinologist to consider some method at his disposal which will enable him to locate the patient upon a vantage-ground, where the morbific changes will be inhibited and the remnants of healthy tissue and glands be stimulated to normal physiological action, overcoming gradually a lesion that ridiculed a therapeutic medicinal treatment.

The paramount evil is apparent in this affection as in all chronic diseases—social ostracism. Truthfully, it is more apparent here than in some others; the offensive smell which is noticeable in the large majority of cases not only renders them unfit for many offices of social man, but it must be constantly a reminder of their infirmity, inducing melancholia and other psychical phenomena. The results of this condition can be depicted by observing physicians: that deplorable state which they have seen among the hopeless—the epileptics, the maimed, the phthisical and the insane. Since colonization has done more as a restorative to the epileptics than have medicinal or operative measures, and the healthy offspring of the tuberculous immigrant in Colorado demonstrates what can be done for the afflicted who fear nature's law of heredity, the scientific climatologist conjectures wisely when he considers "what might be done for the chronic invalid in colonies, established in suitable places and arranged politically, that they might compete with their fellows for a livelihood." This would not only be a step toward Utopia, but a lesson of philanthropy that only could be accomplished by the highest grade of civilization, urged and abetted by a compassionate humanity. Moreover, when morphology—and this refers more especially to morphological teratology and embryology—is established systematically in medical diagnosis, then will the treatment of many chronic diseases resolve itself into colonization. The reason of this is patent, for the profession will recognize more explicitly causes of evolution and also those of atavism.

Ozæna, the prevailing symptom, though sometimes absent—as I have seen it—is by no means diagnostic of the condition. Ozæna may be the result of tuberculous, syphilitic and carious ulcerations, and even a result of accessory disease, although Drake claimed originally that atrophic rhinitis never existed unless accompanied by antral, ethmoidal or sphenoidal disease. Since, according to my view, the ozæna is due to the caseous degeneration of epithelium, this symptom is dependent entirely upon the intensity of the cirrhosis and, if I may be allowed to introduce E. Frankel and Krause's theory, the diathesis and environments which favor the propagation of the "bacillus fœtidus." Why the *bacillus fœtidus* evinces itself in some cases and not in others is a question that should be settled by the department of bacteriology, although the clinician is fully aware that the diathesis, surroundings and other incidentals dependent upon the vocation of each patient augment the development of this bacillus. Moreover, the site of the lesion is in itself a septic location, which is modified by the anatomic conformation of each individual's nose which is unfortunately attacked. This truth is another clew which the morphologist can employ in the revelation of the mysteries of anomalies and reversions. I have seen the typical nose of the anatomist's chart in clinics, but I have never seen two identical nasal chambers, either in a physiological or pathological state. Therefore the normal structure, prior to the pathological development, is the foundation upon which the intensity of the lesion depends; hence the peculiarity of each individual case.

The lesion involves the nasal portion of the respiratory tract, and, in my estimation, any lesion implicating this tract, whether in the peripheral or central por-

tion, prevents proper aëration of the blood. Hence the anæmia varies proportionately to the amount of tissue involved in this cirrhotic process. Notwithstanding, the anæmia should be treated with hæmatinics and bracing atmosphere in which there is an abundance of oxygen; the mountains of Pennsylvania and New York in summer and the Atlantic seaboard in early spring fulfill these requisitions. Secondly, the patient's temperament should be considered. I should divide disposition into two states: irritability and repose. The general rule is, usually, infrangible, *i.e.*, light-complexioned mankind belongs to the reposed in temperament, while dark-complexioned are irritable. In the selection of an abode of health for the afflicted, the above must be well borne in mind; as it is of the utmost importance to send the irritably inclined to climates which are of a sedative nature. Contrarily, the reposed should be sent to stimulating resorts, where animation will cause them, in part, to forget their malady.

The primary requisite in promoting the domination of the healthy titsue and fostering a metamorphosis in the disorganized structure in all cases is outdoor life; that is, not a definite length of time each day, but if it is possible to remain in the atmosphere twenty-four hours it will the better accomplish the desired result. The sleeping apartment should be roomy, and a free circulation of air should be active during the sleeping hours as well as when the room is unoccupied. Above all avoidances steam radiation should be placed. The dry air should be eschewed at all times, for the reason that the sufferer with cirrhotic rhinitis—unless the pathological surface is of small area, and this I have never seen—cannot infuse the inspired air with sufficient moisture to insure a salutary influence upon his economy. Extreme cold should be shunned, and also localities that are extolled for dryness, per example, Colorado and New Mexico, in the United States, and Egypt abroad. One of the worst evils which characterize these places is the violent sand-storms within their domain, causing a mechanical irritation to a membrane passing through the various stages of chronic inflammation, and also causing a painful nasopharyngitis. In all cases that have come under my notice in Philadelphia, subjectively and objectively, the disease has been augmented during prolonged dry and cold spells. Contrarily, the summer months, especially the moist, warm days, benefited and relieved the patients and checked the process of destruction.

The abode and climate of preference, from which superior results will be obtained, is one, the composition of which consists of: picturesqueness, warmth, balminess, equability, stimulation or sedativeness (according to the temperament of the patient). Of these conditions I shall speak separately.

Picturesqueness affords solace to the restless and fosters a feeling of joy and careless demeanor in those who are morose. In fact, there is nothing so free of sickly contamination as an ever-varying landscape.

Warmth is the next quality which I wish to extol; and by warmth I mean a temperature of over 70° F., and it may range to 84° F. This is requisite for two reasons; it aids in moistening the inhaled air, and, owing to its mildness, the small space of healthy tissue can perform its function admirably. Cold air, on the other hand, not only cannot impregnate itself with moisture, but it is deleterious to the healthy membrane and causes its hasty destruction. The second reason for warm air is the opportunity that it affords for outdoor exercise, without bundling in swaddling-clothes, which impede free circulation and interfere with the glandular system. This system must be kept as near perfect as possible if a cure is to be hoped for in rhinitis cirrhotica. Moreover, accompanying this affection, or rather as one of the sequelæ, is a functional disturbance of the aural organ, due to agglutination of the mouths of the Eustachian tubes in the naso-pharynx. The dripping of viscid mucus from the nose is responsible for this plastering process. Warmth, combined with a moderate relative humidity, is not only a preventive of this troublesome symptom, but a positive relief in cases of some length of duration.

Balminess is a combination of moisture and sunshine tempered with warm currents such as would be blown from the ocean by light breezes, and experienced in resorts along the southern coast of California, eastern shores of Italy, and that delectable country of southeastern France and adjacent Italy washed by the shores of the Mediterranean Sea. It insures the fatuitous victim from the fear of "catching cold,"

and for this reason allows him to take outdoor exercise with a feeling of immunity. The moisture in a balmy atmosphere is due to the degree of relative humidity; the latter is directly dependent upon the influence that the absolute humidity has upon the temperature. Since warmth is a component part of the climate I have recommended, it is well to observe that an extremely damp locality be avoided, for the results which are hoped to be obtained from moisture will not be forthcoming, but instead the patient will suffer from a high degree of relative humidity. In order to avoid excessive humidity, it is well, according to meteorological observations, to eschew extreme temperatures.

The equability of which I have spoken as a factor in the selection of a suitable domicile for atrophic conditions of the nares applies more to the equability of the *warmth* which I have already described. Coasts or islands washed by warm ocean currents are to be mentioned as possessors of equability. Truly all large bodies of water avert the rapid rise and fall of the temperature wave. It is needless for me to explain his phenomenon, but I should like to make an exception, and that is the great lakes of America, the confines of which are visited by most severe rises and falls of temperature in a short period of time. The direct cause of this, I think, is the plateau-like situation of these lakes, as this is not true of Salt Lake, which is a basinic region, though elevated at the same time some 4,000 feet.

In the "Transactions of the American Climatological Association" for the year 1890, Dr. A. C. Standart gives a statistical study of the climate of this region; and as a winter resort, for equability and bracing tone, a better selection would be difficult to make in cases of rhinitis cirrhotica. It is not cold enough to hinder outdoor exercise. Moreover, this degree of cold would act as a massage to the healthy tissue of a patient whose atrophy was of a low grade; but for bilateral cases with small area of healthy tissue in the nares, I prefer the southern oceanic treatment, either upon a suitable island or a sea voyage.

It is with some regret that I speak of sea voyages, knowing that there is not the desired facility. There are no planned voyages by steamers departing from any of our seaports for southern sea benefits, calling at stations of interest and salubrity, so that the only expedient is a sojourn upon one of the islands in the Atlantic Ocean, such as the Bermudas, Azores or Madeira Islands, combining equability and sedativeness.

The last qualities that are necessary considerations in the choice of selection are influences which bear upon the corporeal and mental faculties of the individual; they are sedativeness and stimulation. I have previously classed the variety of patients which improve best in climates possessed of one or other of these attributes. Sedativeness will be found in localities or resorts whose air is balmy, mild and bright, and whose elevation must not exceed 400 feet above the sea-level. As stated before, the following islands are unwavering examples of this character: The Bermudas, Azores or Madeira. Stimulation is found at high altitudes, ranging from 500 feet to a mile above sea-level. Of the resorts which combine equability and stimulation, I may mention Nice, Mentone, Cannes and Villefranche on the shores of the Mediterranean; but, by preference, according to many climatologists, the islands in this sea are superior—Capri, Malta, Majorca and Sardinia. In the Atlantic Ocean the Canary Islands are noted for their stimulating attribute, and in the Pacific mention may be made of Western Australia. The southern coast of California has an atmosphere the volume of which is equable and stimulating. The counties of that State bordering on the ocean are Santa Barbara, Ventura, Los Angeles and San Diego. All of these resorts have improved hostelries, and home comforts can be partaken of very liberally. Therefore the physician need not hesitate to give his patients contrary advice owing to lack of accommodations.

In conclusion, I wish to state that recently two cases of atrophic rhinitis of which I am familiar developed tuberculosis of the lungs. Therefore it appears to me that there must be fibroid changes in other organs, following the progress of the disease in the nose; or, while the destruction is active in the nasal organs, it is a suitable and favorable opportunity for the ingress of the tubercle bacillus. If this presumption cannot be refuted, then we have additional reason to treat this affection upon a climatic basis, both to prevent *this* result and to hasten the subsidence of the nasal lesion.

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SATURDAY, JANUARY 12, 1895.

EDITORIAL.

A FICTION OF FIGURES.

That "figures cannot lie" may be true, but the disability does not necessarily extend to the intelligence manipulating them. "Let us do the counting," said a partisan electoral board, "and we don't care who votes or how!"

However true statistic figures in the abstract may be, when regarded as members of an equation they are factors whose values depend entirely upon the positions they occupy in the equation. By selecting some and suppressing others of a group of correlated statistic items, a result the converse of truth may be given the appearance of mathematical demonstration. So common is this process that the paradoxical belief is that the "figures which will not lie" are the most notorious of prevaricators.

An example of the evolution of a falsehood by a process of artificial selection and carefully devised environment is found in the following clipping which has of late been going the rounds of scientific periodicals. It is one of those clips that pass as the right to work mischief by furthering wrong:

"The British Medical Association, wishing an exact statement of the influence of alcohol over the duration of life, charged a commission with the inquiry in three classes of subjects:

"1. Total abstainers.

"2. Moderate drinkers.

"3. Excessive drinkers.

"Observations included 4,234 cases of death in five categories of individuals; below is the average attained by each class:

"1. Abstainers—fifty-one years and one month.

"2. Moderate drinkers—sixty-three years and one-half month.

"3. Occasional drinkers—fifty-nine years and two months.

"4. Habitual drinkers—fifty-seven years and two months.

"5. Drunkards—fifty-three years and one-half month.

"The most advanced age is attained by moderate drinkers and the minimum by abstainers."

There is no reason to doubt the accuracy of these figures as separate items. The falsehood is in the segregation of these items, suppressing all correlative facts and declaring the result as the final solution of the general problem. It would be stultifying to entertain the possible accuracy of conclusions which subvert all facts accumulated from observation, experience and experiment, which contravene the data on which are founded the unsentimental business principles of life-insurance corporations, and which willfully misrepresent the scientific body under whose authority they claim authenticity.

The *British Medical Journal* gives the following explanation of these figures:

"The attempt to construe the statistics published by the Collective Investigating Committee of the British Medical Association as proving that intemperate drinkers live longer than teetotalers is quite unwarranted, and is in direct opposition to the conclusions of the reporters themselves as expressed in their report. Teetotalism, as they suggest, has only of late years been largely practiced in Britain, but drinking to excess has had great antiquity; therefore the average age of living abstainers must be less than the average age of the rest of the community. So that the average age at death of abstainers being 53 years as against 58 in the case of drunkards at death proves nothing against abstinence. The accuracy of this explanation is proved by other tables given in the report. When deaths under 30 years were excluded, the average age of the abstainers was about four years more than that of the decidedly intemperate. When deaths under 40 were excluded the average age of the teetotaler at death was more than five years greater than that of the intemperate. To guard against misrepresentation or misunderstanding, the committee expressly stated that the returns reported on afford *no means* of coming to any conclusion as to the relative duration of life of abstainers and 'habitually temperate drinkers;' that habitual indulgence in alcoholic liquors beyond the most moderate amounts has a distinct tendency to shorten life, the average shortening being roughly proportionate to the degree of indulgence; and that total abstinence and habitual temperance augment considerably the chance of death from old age and natural decay."

Shall We Quarrel With Our Neighbors?

It is unnecessary for us to adversely criticise our medical neighbors. Assured of our principles we need not contend with those who decry us, but can pursue our way without fear of successful antagonism. Honest differences of opinion should be discussed frankly and without passion. Inuendo and abuse are not argument. Life is short at most; days come and go and we pass away. Let us, then, not spend time in recrimination. He will succeed best who quietly pursues his calling; not finding too much fault with his neighbor; rather endeavoring to show his superiority by works than words. Your friends will fight your battles for you. Success in the treatment of your patients is the best ammunition you can furnish your adherents.—*Ec. Med. Jour.*

Blood-Serum in Surgery.

Dr. Schleich, of Berlin, regards desiccated pulverized and sterilized blood-serum as the best dusting powder for wounds and as the most unirritating vehicle for medicaments of all kinds. When applied to fresh wounds it forms a crust under which healing takes place, while in cases of moist eczema, burns, etc., it arrests the secretion. It may be mixed with water to form a paste, which is also an excellent vehicle for various drugs.—*Allg. Med. Central. Ztg.*

ABSTRACTS.

THE EFFECTS OF ALCOHOL ON THE ENGLISH MILITARY AND CIVIL POPULATION AT HOME AND ABROAD.

In an inaugural address before the Ulster Medical Society, November 2, 1894, Brigade-Surgeon F. E. M'Farland, A.M.D., said (Dublin *Jour. Med. Science*): There is one subject which bears more than any other on the health and well-being of the nation, and that is the drink question.

During twelve years' residence in India I had an opportunity of seeing its effects in that country. India is a remarkable country in many ways, and our tenure of it is one of the greatest miracles in history. How England, with a handful of men, many of them invalids, has been able to keep a population of much over 200,000,000, not in check but in absolute submission is the marvel. Now there are different ways of accounting for this. The population of India consists of Mussulmans and Hindoos, and if the English were out of India to-morrow these would be at war with each other, and the Mussulman would most likely prevail. Another reason is that though both races hate us as an alien race in their country they respect our laws; but another and perhaps the greatest reason that we hold India is—the two races, Mussulmans and Hindoos, are a sober people. Mahomet taught his people not to drink, as it made men mad; and Brahma and Buddha taught their followers not to touch strong drink, as it is an unclean thing. The result is, I may say, there is hardly any drunkenness among the natives of India, and an English lady might land at Bombay or Calcutta and travel to almost any part of India, and she would never meet with an insult or incivility, and that, not because they have a respect for women, for the reverse is the case, but because they are a sober people, and know that the matter would be reported and the offender would be detected and punished.

Some time since it was proposed to establish an "out still" system in India, which simply means public-houses under government license, with the object of raising revenue. My belief is that if this were done, and that drinking habits could be introduced among the natives, we could not hold the country a single year; it would become a perfect pandemonium.

I entered the army in the year 1858, and was at once sent to India, at the close of the Indian mutiny. At the close of a campaign discipline is apt to be a little relaxed; and certainly, in numerous cases, both officers and men had contracted drinking habits to a considerable extent. I have seen some of the most promising fellows in the service go shipwreck from strong drink. I was on the staff for one year, doing duty with various corps. The next year, 1859, I was gazetted to my first regiment. It was a distinguished regiment—had been to the Crimea and lost half of its men at Inkerman; but, like most other regiments at the time, it was a fine old drinking regiment too. There was no temperance society in it, and the colonel, who was the soul of honor, would not allow one, feeling that a man would be more demoralized by breaking his pledge than by drinking. In India, except in large cities like Calcutta or Bombay, there are no public-houses—the regimental canteen serves the purpose; but there are spirit merchants in every station.

There was a good deal of sickness in the regiment during a great part of the time I was with it, and many fatal cases, attributable to drink, especially among the non-commissioned officers. At this time there were two issues of rum in the day. Each issue, or tot, as it was called, was about 2½ ounces. In the days gone by there were four issues, the first at early dawn; and even the drum-boys were compelled to take their tot the same as the men. I returned to England in 1866, and during the eight years I remained at home my experience was that when men were in a large town or city like Woolwich or Belfast they drank, deserted and filled the hospital; but when they went into camp they were sober, well-conducted and healthy. In Aldershot—which is called a camp—there are enough

public-houses in all conscience. Every second house in the district is a beer-shop; but as there are no rich civilians foolish enough or weak enough to treat them, it is a case, as a soldier jauntily expressed it, "We calls for drink after drink, and seegar after seegar, as long as the blooming sixpence lasts." The government is wise in the payment of soldiers; they are paid in kind and not in cash, which would only be spent in drink.

In the year 1874 I returned to India, after an absence of eight years. A change had come over the spirit of the scene, and principally through the efforts of one man, the Rev. J. Gelson Gregson, the Father Mathew of India, I think the most remarkable man I ever met. To say that he traveled through every station in India is nothing—he did it two or three times a year. In the hot season, when it blew like a furnace; in the rainy season or the cold—all was the same to him: he went from station to station strengthening the temperance societies which he had organized in every regiment. Some commanding officers were favorable to those societies, some were not, more just tolerated them, but it mattered not to Gelson Gregson: he went on with his good work, and certainly I found a wonderful change since the time I was in India before. Not only were there a great number of teetotalers among the men, but there was a temperance element introduced into the service that never existed before, and this had spread to the whole Eurasian population, transforming them and improving them in every way. Mr. Gregson also introduced a form of pledge which, while it does not bind for a single day, is the one that is found to bind for life. It only binds a man while he keeps it in his possession. He can tear it up whenever he likes and be free from his obligation.

Also at this time, instead of two issues of rum only one was allowed, and in the last regiment I did duty with even this issue was divided into two. The canteen opened at a quarter to seven in the evening for the first half and at a quarter past seven for the second half. The canteen was again opened at eight o'clock, when a man could buy, at his own expense, a glass of spirits or a bottle of beer; but even this was productive of bad effects. Owing to the intense heat in the hot weather (and the hot season is very long) the men suffer from various affections and fevers, and from neurasthenia or nervous exhaustion generally. The result is that thirst is trying, and when in addition they take spirits at the canteen, the desire for more becomes almost imperative; and in too many cases it leads to men taking native drink. Many and curious are the ways the men adopt to obtain this poison, which is very deadly in its effects. I will not take up your time by describing the different kinds; all vary in strength according to the length of time they are allowed to ferment, and are a great cause of hepatic abscess and other illnesses. We hear a good deal in India of sunstroke, sometimes called heat apoplexy, insolatio or ardent fever, and that it is more common at night when men are in their beds than when out in the sun. My experience and that of others was that in too many cases the men had taken spirits largely before going to bed, and that, although they died of sunstroke, drink was the cause.

What is the state of things now in India? Lord Roberts crowned his splendid tour as commander-in-chief of India by wisely abolishing the rum ration entirely. We have now an army in India of about 75,000 men; of these 25,000, or one-third, are teetotalers, and a temperance element is developed through the whole army in India greater than ever before known.

Lord Wolseley says in a letter to the grand secretary Independent Order of Good Templars: "There are yet some great enemies to be encountered, some great battles to be fought by the United Kingdom, but at present the most pressing enemy is drink. It kills more than all our newest weapons of warfare, and not only detroys the body but the mind and soul also. All movements intended to meet this foe commend themselves to me, and no one can wish the Good Templars success more than I do. I am glad to say we have now but little drunkenness in the army—less of it in our ranks than in any other class of her majesty's subjects. To this fact I consider we owe much of the improvement in every respect that has been steadily going on among us for the last twenty years." These are the words of England's greatest general.

We tried large quantities of stimulants with our soldiers when we first acquired

India, and found the result was sickness, mortality and crime. Then we tried a smaller quantity with improvement, then smaller still with increased benefit, then no spirit ration at all, with the best results. We have the finest army we have ever had in India—sober, well conducted and healthy as an army can be in the climate which varies so much. One station may be healthy and the station next to it the reverse. I know temperance does not deserve all the credit for the improved condition of things. Sanitation, improved cooking, extra accommodation in hill stations—we have barracks for 14,000 now in the hills—but no one can deny that it is to the improvement in drinking habits principally that the great change is due.

Is alcohol food? If it be, it is a food we seem to get on very well without. This crucial question I am not going to solve; but, in the fewest words, put the matter before you. I may say there are two parties. One party believes that alcohol is neither assimilated nor changed, but is expelled as something foreign, by the kidneys, lungs and skin principally. The other party believes it undergoes combustion in the system, producing heat and force, but what the combination is they cannot tell us.

There are many kinds of alcohol, notably six—methylic, ethylic, propylic, butylic, amylic, capriolic—but it is with ethylic we have to do, C_2H_6O. The theory of Baron von Liebig was long believed, that the whole of the alcohol was consumed in the body; but French chemists—Lallemand, Perrin and Duray—performed a series of experiments in 1860 proving that alcohol was eliminated from the system unchanged. These experiments were performed by distillation and condensation, and by causing persons who had taken alcohol to breathe through a tube into a vessel containing bichromate of potassium and sulphuric acid in solution, and in such cases the color of the solution was changed from red to green, though no change took place when persons breathed through who had not taken alcohol. This seemed to settle the point, when the late Dr. Anstie performed a series of experiments, and he found that only a small portion of the alcohol was so eliminated and maintained that the remainder was consumed in the body, in a sense forming food. The late Professor Parkes, in his reply to him, said that, if a food, Dr. Anstie could not say whether it were a food for good or for evil. Richardson, in his Cantor lectures, admits that the whole of the alcohol drank is not recoverable, and suggests that probably it may have been converted into aldehyde, which by a process of oxidation is again disposed of within the body. I think we can leave this interesting question in the hands of the chemist, and with the proofs we can learn from our Indian army, and from the hundreds of thousands of our civil population at home who do not touch alcohol, we can say that if alcohol is food it is food for evil, and a food that we are better without. There are many excellent definitions of food given by eminent physicians and scientists; but plainly it comes to this, that food is that which produces bodily heat and forms tissue, and so force. That alcohol produces animal heat is disproved by Richardson, by a series of experiments on men, animals and birds. He shows that there are four stages in drunkenness. In the first, which is pleasurable, the heart is stimulated and quickened, the capillaries are dilated, there is a rush of blood toward the peripheries, with a very slight increase of heat, half to one degree; but he shows that this is really a cooling process, for the blood gets cooled at the surface of the body; and, in the second stage, sinks below normal; and, in the third stage as it approaches the fourth stage, the temperature becomes so low as to become dangerous, three or four degrees below normal. How alcohol forms tissue, except by causing fatty depositions, it is difficult to understand, as it does not contain nitrogen.

That alcohol is not a producer of heat is proved by experience. All arctic explorers give their evidence against it. All the men who took alcohol suffered more than those who did not—so much so, in most if not in every arctic expedition its use had to be discontinued.

The effects of alcohol on our civil population at home we find appalling. We spend about £140,000,000 on strong drink. To estimate the magnitude of this sum, we learn that it is more than the rental of all the houses and of all the farms in the United Kingdom. The rental of all the houses in the United Kingdom of England, Ireland and Scotland

is only £70,000,000, and of all the farms £60,000,000, making £130,000,000, and we drink £140,000,000. This is a fearful waste; but it does not end here. It is calculated that the country loses some £50,000,000 through the loss of labor—men not working their full time. Then there is some £30,000,000 expended in prosecutions for crime, legal expenses, prisons, poor-houses, lunatic asylums, and a hundred and one other results of intemperance. Another heavy loss which cannot be computed arises from the early deaths and sickness of workingmen in their prime. It may be said that we doctors have nothing to do with those matters; but we have everything to do with every matter which bears on the public health, and have as much to do with the prevention as with the cure of disease. Dr. Norman Kerr puts down 40,000 as the number who die annually in this country from strong drink *directly*, and about 60,000 who die *indirectly;* and these figures have been confirmed by the committee appointed by the British Medical Association and also by that appointed by the Harveian Society. Others consider these figures much too low and would certainly double them. And we ourselves know how many cases there are returned as pneumonia, liver, kidney, lung and heart diseases who have just drank themselves to death; but, in respect for the feelings of survivors, no mention is made about the drink, but the actual cause of death is sent to the Registrar-General.

The case of the drunkard is hopeless so long as he drinks. For him there is only one remedy, and that is, "Do not drink." He must not touch alcohol in any form if he wishes to save himself. But, unfortunately, the family of the drunkard suffers. Children require pure air, wholesome food and sufficient suitable clothing, and should have proper education. The children of the drinking artisan or workingman at night are often crowded in close, ill-ventilated rooms, breathing and rebreathing the same foul air—no more fruitful source for developing phthisis and struma; often little or no bedclothes, but huddled together for warmth. They are tea-fed and underfed. We can see them on the severest days barefooted and underclad, and we can tell the children of drinking parents from those of sober. Education is all very well if children are sent to school after a good breakfast and comfortably clad. And it is better that they should be barefooted than that they should be ill-shod and sit in wet shoes. But the drinking fathers and mothers care little so long as they can gratify their horrible craving for drink. People talk of the children of the poor being hardy. It is not so in towns and cities. The mortality is out of all proportion greater than that of the well-to-do classes. The only remedy is to remove or properly control the plague-spots of temptation—the public-houses. This can only be done by the mighty *vox populi*, quietly and lawfully and at the polls. Too long have the artisan and workingman paid their tribute at the expense of health, happiness, and everything that makes life worth living for, to enrich the publican and enable brewers and distillers to amass colossal fortunes.

Dr. Ringrose Atkins, a distinguished psychologist, microscopist and photographer, gave a most interesting lecture on the disastrous effects of alcohol on the vessels and nervous matter of the brain, exhibiting photos of sections of brains of alcoholics. I am not a profound pathologist, so will just quote Dr. Atkins' words. He considers in the early stages of alcoholism the most important and constant changes are "excessive nucleation of the vessels (arterioles), with consequent involvement of their coats and diminution in caliber of their lumina, and increase in the number of the neuroglia cells, both protoplasmic and fibrous, as Bevin Lewis and Andrietzen have pointed out. The nerve elements, both large and small cells, are affected in the later stages, undergoing either pigmentary or fatty degeneration, or shrinking and breaking up into molecular masses, with infiltration of nuclei." Dr. Atkins does not hold that these changes are special to alcoholism, or only found after its abuse. Nearly similar changes are found in other diseases and conditions of irritation, and the later changes are found in cases of chronic dementia, old standing paralysis, etc. Dr. B. W. Richardson, in his course of Cantor lectures, shows the action of alcohol on the blood if taken in sufficient quantity, by either fixing the water with the fibrin or extracting the fibrin, and so producing coagulation; on the red corpus-

cles by extracting water from them owing to the powerful affinity alcohol has for water, and in doing so altering their shape and course; also its effect on the vessels themselves. He shows especially how alcohol acts on the colloidal membranes—that the skin which covers us is colloidal, all organs and blood-vessels to their minutest ramifications, all organs, nerves, muscles and their fasciculi are sheathed with colloidal membrane, as well as the whole of the alimentary canal. It covers and penetrates the liver, kidneys and other solid organs. It not only supports the tissues and keeps the body in position, but it acts as a filter, and its efficiency depends upon a proper supply of water. He shows how alcohol acts on this membrane by robbing it of water and so producing thickening, shrinking and inactivity. In order that these membranes should work rapidly and equally they require at all times to be charged with water to saturation.

The effect of alcohol on the liver is first to cause congestion and then to shrink and contract the capsular membranous portion, so as to compress the vascular and cellular and so produce the hobnail liver in due time.

In the first stage of drunkenness an inordinate amount of arterial blood is sent to the brain; there is also dilatation of the capillaries; then comes the subsequent changes—there is venous congestion, and so in all the stages there is compression of nervous substance from disordered circulation.

From the effects of alcohol on the organs and tissues we can understand the different diseases it produces and develops. I need not speak of these.

The case, then, is that drunkenness is both a disease and a vice, and the question is, Where do these begin? One party says that moderate drinking is no vice; it only becomes a vice when a person exceeds. The other party says that moderate drinking is the vice that leads to excess, which becomes disease.

I am not going to touch on the drunkard's bodily ailments and diseases, but state that alcoholism is a disease characterized by many and peculiar psychological symptoms, of which loss of willpower, more or less complete, is one. It is computed there are 60,000 drunkards in the United Kingdom, and as many more qualifying for the position, and every one of these was recruited from the army of moderate drinkers, which is an item against moderate drinkers. No drunkard became so intentionally, but through loss of will-power and inability to resist the temptation. This inability may be hereditary or acquired. We have all seen instances of this. Alcoholism is both an insanity and a cause of insanity. Authorities vary very much as to the percentage of admissions into lunatic asylums from drink. The late Lord Shaftesbury, who was for fifty years on the Commission of Lunacy and for fourteen years its chairman, testified before a parliamentary commission that 50 per cent. was due to drink, and afterward stated that sixth-tenths were due to no other cause; the Thirty-ninth Report of the Commission in Lunacy put down 13.2, and many institutions vary. All authorities admit that a large number of admissions are from drink directly, but there is a worse phase—that a large number of lunatics are children of drunken parents. Some authorities put down one-half of the idiot class as such. There is a new school now that denies this, and says that acquired character cannot be transmitted to posterity. I cannot enter into this. At any rate, total abstinence is the safest and the only safe course. The inconvenience is very transient and the satisfaction very lasting.

It is by no means individuals of a low, vicious or brutal type, or the idle or those of a dull, inferior temperament who are usually the victims of strong drink. Often it is the young, the beautiful and the brave; the generous, the talented and the good. We should, therefore, treat habitual drunkards quite differently to the way we do. The habitual drunkard should not be let at large; he should be put into confinement, where he could pursue his trade or calling, or earn money in some way. A Norwegian gentleman in this city told me they used to have a law in his province of Norway that when a man was an habitual drunkard, any burgess could get another burgess to investigate the case—these burgesses were citizens sworn to maintain law and order and were men of character and of certain property-worth. These two witnesses, if they found that the man was an habitual drunkard and systematically neglected his family, could report him to an official

who was a kind of judge, and he then appointed two other citizens, independent of the two former and of each other, and on the evidence of the four the accused was without further trial put into prison for one year, and his family provided for by the State. The law worked well. I do not know if it is the same now; my friend has written to a lawyer in Norway to find out for me.

Alcohol is characterized by another symptom. Sometimes there is no depth of degradation to which the drunkard will not descend. I know of the case of a man of English blood who sold his two little girls to a Mussulman in a bazaar in India for a case of half a dozen bottles of brandy. But cases just as bad occur at home. You all know plenty of them. I need not dwell on the subject; it is part of the disease. There is a consensus of authorities who put down nine-tenths of all the crime in this country to alcohol. The late Baron Dowse, one of our Irish judges, said that drink was at the bottom of nearly every case he had to try, and that even in cases where it did not appear on the surface, yet, on investigation, he could nearly always trace them to drink. In the army, owing to the splendid discipline, practically there is no crime apart from drink.

But it is not at home only that we see the terrible effects of drink. We have, as Canon Farrar says, girdled the earth with a zone of drink. We send our sons to the colonies, and for one who succeeds how many go shipwreck because the spirit-seller is there before him. Our missionaries bring the Gospel to foreign lands, but in the same ship will be the spirit-seller or his wares to undo the work of the missionaries. Our missionaries complain that while the Mahometans make converts in great numbers, both in Asia and Africa, the heathen will not become Christians owing to their drinking customs. Mr. E. R. Barrett states that from 1883 to 1887 30,000,000 gallons of spirits were imported into Africa, and that an analysis of some of it proved it to be of a very poisonous quality; but what can one expect when a pint bottle sells at Sierra Leone at fourpence halfpenny? I do not mean to say that England is to blame for all this. I dare say other nations send spirits there too; but England boasts of her foregin missions, on which she spends £2,000,000, while she spends £140,000,000 in drink. I think the poor heathen get more strong drink than Gospel from us.

This is a matter that concerns ourselves very nearly. Many of our young members who have attained their profession at great labor and expense, who have not means or patience to settle down in the better-class neighborhoods, elect to practice in the populous working districts—many of these gentlemen do an amount of work that should be remunerated by £600 or £800 a year, and do not get one-half, because the money goes to the publicans. The late Sir Andrew Clark once stated—"He was often tempted to give up his profession and join in a crusade against strong drink." Medical men are often blamed for ordering drink, and perhaps we sometimes deserve it; but we must take cases as we find them, and a physician's hand should not be bound in the slightest. At the same time, my own belief is that if we had no such liquors as whisky, gin, rum or brandy, but a recognized standard solution of alcohol, labeled alcohol poison and placed on the chemist's shelf, it would answer all requirements and be very little used. However, my case is not against alcohol as a medicine but as a diet. Sir Wm. Jenner struck the right note when he said, "There are times in the crisis of disease, as in the life of a man, when alcohol is useful; but it is as the whip and spur are to the race-horse, it tides over a difficulty by enabling him to put on a spurt, but is in no wise hay and oats."

We come now to the treatment of this disease. Much might be done by the women. If the homes of the artisan and workingman were made more comfortable and attractive, and if the cooking was better, he would not be so fond of the public-house. Man is a docile animal and easily domesticated.

It has often been said that we cannot make a man sober by act of Parliament, but the saying is untrue. Experience has proven that just in proportion as temptation is put in a man's way or out of a man's way does he become drunken or sober.

The grocer's spirit license has done much harm, especially to women. It had already made many of them inebriatess women, especially, should not be expose; to temptation. There are times of physi-

cal weakness which render them an easy prey to drink when once the habit is formed. Women who formerly would not be seen in a public-house cannot now buy their necessaries without being exposed to temptation. The downfall with them is very rapid and the outlook for the children very bad. This law should be repealed.

Finally, there are the two large projects for controlling the trade before the country: The permissive or local veto bill and the Bishop of Chester's scheme on the Gothenburg and Bergen lines. Both have their advocates. Time will not permit me to go into these. I have just touched upon some of the salient points of this great drink question. Some points I have not alluded to—as the insurance aspect, expectation of life, and many others.

This great work—the control of the drink traffic—will proceed. Are we as a profession to be in the van or wake of the movement? In this society there is a large percentage of total abstainers. Others do not see it in exactly the same light as we do, but of one thing I am certain—there is not a single member who would not receive with joy and satisfaction any movement that would emancipate the artisan and workingman from the bondage of strong drink.

SOCIETY REPORTS.

PHILADELPHIA COUNTY MEDICAL SOCIETY.

Meeting of November 28, 1894.

Dr. Robert T. Morris, of New York, by invitation of the Board of Directors, presented

I. DEMONSTRATION OF A MECHANISM OF INTUSSUSCEPTION. II. EXHIBITION OF SPECIMENS ILLUSTRATING EACH STEP IN THE PROGRESS OF INFECTIVE APPENDICITIS.

(See page 45.)

DISCUSSION.

DR. JOHN ASHHURST, JR.: I have listened with a great deal of pleasure to the description of Dr. Morris' specimens, and there are some points that have particularly interested me. What Dr. Morris said with regard to the occurrence of inflammation of the appendix followed by gangrene from pressure, the appendix being a narrow tube, and therefore not able to bear great distention with impunity, is paralleled by what is seen in other parts of the body. We see it in some cases of felon, where the tension becomes very great from the "temporary hypertrophy," as it was called by Virchow. When such a finger is opened, no pus and but little blood may escape, but the whole finger may be apparently packed with dead or dying tissue. This also is an instance of necrosis from tension, due to excessive inflammation where there is no chance for expansion. I have seen the same thing in the testis, where necrosis of a considerable portion of the gland may take place from the firm tunica albuginea preventing expansion of the inflamed organ.

I was also interested in the specimens showing obliteration of the lumen of the appendix. I have seen such specimens. Several weeks ago I removed the appendix of a young lady who for many years had suffered from recurrent attacks of appendicitis, and between the attacks had curious symptoms, referred to the digestive system, which I think were explained by the condition which was found at the operation. In this case the appendix was so much reduced in size that it was with great difficulty it was discovered. It was simply a fibrous band surrounded by serous membrane. No mucous membrane could be seen except a little pouch near its junction with the cæcum.

I was interested in what was said with regard to the causation of reflex symptoms, such as interference with the function of the bowel, which was explained by

a condition of local neuritis. In the case to which I have just referred, the patient had suffered for years with almost continual nausea, though without vomiting. Never did she take a meal without suffering with nausea for hours afterward. I think that the digestive symptoms were explained by the presence of adhesions. The cæcum was closely adherent to the abdominal wall, and it is easy to understand that under such circumstances the nerves of the part would be seriously pressed upon, and neuritis might follow. We find an analogy to this in cases of Littre's and Richter's hernia, where a diverticulum of the bowel, or a small portion of the intestine, is caught in a hernial opening. In such cases there may be grave symptoms of strangulated hernia, though only a small portion of the lumen of the bowel is involved.

Dr. Morris referred to the presence of worms in the appendix. Last winter I operated on a case of acute appendicitis in which, after evacuating a quantity of pus, I saw what I supposed to be an unusually long appendix, but on bringing it out it proved to be a lumbricoid worm loose in the peritoneal cavity, the explanation of its presence being, of course, that it had escaped through a perforation.

Last Saturday I operated on a patient who had been operated on in Brooklyn four years ago for appendicitis, and who supposed that his appendix had been removed. Two years after the first operation the cicatrix had reopened and had discharged a small quantity of pus, and since then a fistula had remained. When he came under my care I advised that the cicatrix should be divided and the part explored, thinking that possibly a silk ligature might be keeping up the discharge. On making an incision, the finger at once entered the abdominal cavity, and I felt a full sized appendix. The case evidently had been one where the surgeon had opened an abscess and very judiciously, in all probability, had not pushed the investigation further. I believe that in many cases of acute appendicitis the safety of the patient depends upon not making too minute an exploration. If the appendix is not readily found it may be permitted to remain. In this case I removed the appendix in the ordinary way, and found it partially obliterated. There were two diaphragms, as it were, making pouches, and in one of these was a pin-hole perforation. The lesson taught by this case is that when it is possible to remove the appendix without too much disturbance, it should be done; but, as I have just said, I believe that there are cases where the line of safety for the patient rests in not making too minute an investigation, and, if the appendix cannot be readily found, in leaving it, and simply evacuating the pus.

Dr. James C. Wilson: Dr. Morris has rather thrown out some suggestive hints with reference to the pathology of appendicitis than gone thoroughly into the discussion of any particular branch of this wide and complex field of surgical pathology. I should have been glad if he had been able to have more fully given us his views in regard to this affection.

I am particularly impressed with what has been said in regard to the remote changes and with the explanation which has been suggested for some of the chronic and troublesome intestinal disturbances which have been so unaccountable in their pathology. I think that we have all been puzzled and have been unable to explain or relieve many cases which probably come within this group of chronic appendicitis, with nerve changes, adhesions and permanent foci of infection, giving rise to persistent disturbance not yielding to treatment. I have had many such cases, which have been classified under the head of chronic intestinal indigestion with nervous symptoms. The difficulty which I find with cases of this kind is to induce them to subject themselves to a surgical operation. In one such case of long standing ill-health, in which Dr. Deaver was associated with me, a diseased appendix was found, and after some months the patient reports that she is greatly improved and has regained her health.

Dr. John H. Musser: I have been particularly interested in the suggestion thrown out by Dr. Morris with reference to the degree of virulence of the symptoms depending upon the character of the infection; that where high fever is an initial symptom the probability is that there is infection with the streptococcus, a form of infection which we know very well is not likely to yield to treatment. We also know that the possibilities of more remote infection are greater, and the liability to

infection of the peritoneum infinitely greater. If in this way we can determine the character of the infection we shall be more guarded in our prognosis and in our treatment. I take it that cases of severe streptococcus infection should be treated early by operation.

I was also interested in noting that in the pathology of appendicitis we see that there are two causes for the symptoms, the one mechanical and the other the septic process, the septic process being responsible for the temperature, the mechanical process being responsible for the pain, for the reflex vomiting, and likewise for the occurrence of further pathological changes, such as gangrene. The specimens readily demonstrate that it is impossible to tell whether or not gangrene is going to take place. We cannot tell from the local symptoms or from the fever whether or not there is going to be perforation. As we well know, some of the simplest cases so far as symptoms are concerned often result in gangrene, and cases may be discharged apparently convalescent when gangrene is going on. I have seen cases operated on at the end of a week or ten days, and there was found gangrene, the presence of which the earlier symptoms had given no indication.

In analogy with streptococcus infection under other circumstances we notice here the tendency to recurrence and the tendency to infection of other tissues. I would ask Dr. Morris if the cases of recurring appendicitis are not largely of streptococcus origin. I have had a case of this nature. If this is the case it is another argument in favor of resort to operation in these recurring cases.

I have had several opportunities to see cases of chronic intestinal disturbance due to continuous infection from the appendix, and the removal of this small focus of infection has proven of the greatest value, resulting, indeed, in the cure of the patient.

Dr. Ernest Laplace: I have been especially interested in the remarks with reference to the relation between the nature of the infection and the temperature. It would be very well, indeed, if such a relation could be established, but I take it that is entirely vain. Even if we were prepared to say that in appendicitis there were only two forms of infection, that by the streptococcus and that by the common colon bacillus, I would be prepared to say that there would be no two patients in whom the reaction to these points would be exactly the same, and that there are some systems on which the ptomaines of the streptococcus have very little irritating effect and produce very little elevation of temperature, and therefore the temperature at no time is a real index of the severity of the case.

Another point was the relation of intestinal symptoms—intestinal atony to the possible degree of nerve fixation by fibrous tissue resulting from chronic inflammation. I am sorry that Dr. Morris did not tell us the results obtained in the cases referred to. My experience in the removal of scar tissue not only from this part but from other regions, and especially where serous membranes are involved, is that the reproduction of scar tissue is as rapid as before, and I should doubt the wisdom of disturbing strong fibrous adhesions, which merely result in a little nerve disturbance in the intestine, in order to relieve that condition. We all know that once nature has done the work for us, we should respect that work, because she has done it better than we could. If we remove this fibrous tissue we leave a surface which must granulate and form new fibrous tissue, and the result is the same as before, the same nerves are apt to be affected, and the patient is as bad off, plus the danger of the operation.

The specimens show that Dr. Morris has gone deeply into the philosophy of the subject, and the points brought out in the surgical pathology of this affection are interesting and solve many points which have been problems with me.

Dr. John B. Roberts: I should like Dr. Morris in closing the discussion to tell us what evidence he has that neuritis exists in the cases mentioned. The doctor has not gone into the subject of the operative surgery, but has confined himself to the portion which is the more important at this time, namely, the pathology. I would be glad to have him tell us whether in his operative work he goes upon this principle of a possible neuritis and secondary digestive trouble due to the retention and binding down of the appendix. Does he always make a search for the appendix in the primary opera-

tion, even where there is a great deal of pus, or does he evacuate the pus and wait for a subsequent period to remove the appendix? I would also ask if in operations where a short stump has been left he has seen evidences of digestive trouble from fibrous contraction, or whether neurotic symptoms are found only in cases cured by nature?

DR. JOHN B. DEAVER: There are only one or two points to which I shall refer. The first is the separation of the appendix, to which Dr. Morris has referred, where we find the stump and then the tip of the organ at some little distance. I have met with a similar condition where the tip of the appendix was the source of the infection. In one of these cases the tip laid behind the colon and contained an abscess.

The pain in chronic appendicitis I have no doubt is due to neuritis in certain cases. I also believe that it is due to traction made on the adhesions. I think that this is particularly true after operations where we are called upon to remove stumps, and it should make us more careful in treating stumps. Where it can be done the stump should be invaginated and the serous coat of the cæcum stitched over it. The nerves reach the appendix through the mesappendix, and where the mesappendix is not greatly infiltrated we should eliminate the element of neuritis and look for some other explanation. I believe, therefore, that in these operations followed by severe pain, which is referred to the right iliac region and aggravated by certain motions of the body, it is warrantable to reopen and examine the stump of the appendix, if we can find no other explanation for the pain.

Gangrene of the mesappendix I have seen in a certain number of cases. In one such case the mesappendix was gangrenous, while the appendix was practically intact, the operation being done very early. I might mention a case of abscess of the appendix. This man had but few symptoms either general or local. It was suggested to him that he had appendicitis, and he at once agreed to operation. The appendix was perforated at its mid-point in the line between the two layers of the mesappendix, making the abscess, which contained half a dram of pus, extra-peritoneal.

With regard to streptococcus and colon-bacillus infection, I believe that the streptococcus is the more virulent, and I believe also that this plays a *rôle* in certain of the cases with high temperature. It is not the cases with high temperature that I fear. It is the cases with moderate fever that are apt to deceive us. I place little reliance on the temperature, but am governed by the local condition, the presence of peritonitis, and by progressive invasion of the peritoneal cavity.

The results of operation, so far as my experience goes, have been very satisfactory. I have not found reflex disturbance follow removal of the appendix where I was to dispose of the stump in the ideal way. Where this has not been possible, on account of dense adhesions, or on account of the fear of breaking down the limiting wall which nature had thrown out, I have seen pain follow which in some cases was subsequently demonstrated to be due to adhesions.

DR. G. G. DAVIS: I would ask Dr. Morris what is his view as to the relation which infection bears to appendicitis? In other words, if there is one form termed infective, what other inflammations of the appendix are there? Infection has been said to be a cause of intestinal catarrh. May the process also be a reversed one? Does the doctor recognize such a thing as a catarrhal process being a cause of appendicitis?

DR. M. PRICE: I should have liked if Dr. Morris had taken up more than the pathology, as those of us who are doing operative work care very little about the pathology of appendicitis; we care more about the condition found at the time of operation. I recognize two entirely different conditions with which we have to deal, one where the bowels are confined and it is impossible to move them, and the other where the bowels can be readily moved. These conditions are to be dealt with differently, although both are from the same original cause.

As regards temperature: in 23 abdominal sections for appendicitis, with 19 consecutive recoveries, I have never seen but one case where the temperature was below normal. In looking over the report of Dr. Keen's cases, in a paper in 1891, I note that in two-thirds of them the temperature was below normal. I notice the same thing in the reports of other operators; the temperature is below normal at

the time that the case comes into the hands of the operator. Of course, in the cases that come into my hands, the disease had existed from twenty-four hours to three or four days, and there has been time for pus to form.

There is no question that there are nervous symptoms caused by pressure upon nerves. This is sometimes seen after amputations where resection of the nerve may subsequently be required. I have seen it beautifully illustrated in a case recently in Dr. Joseph Price's hospital. The patient was unable to walk when admitted. Both appendages were removed, it was supposed close to the uterus. It was a dirty case, requiring drainage. After recovery she still complained of pain in the right iliac fossa. On reopening and excising the right stump it was found that the ligature had not been encapsulated, and four or five drops of pus were in the stump. This was removed and the part curetted, and in six weeks the patient could walk as well as any one.

I know that Dr. Morris believes in clean surgery and in complete surgery, and I would ask if he would be willing to leave in the pelvis such a mass as Dr. Laplace refers to, and hope for perfect results. I do not see where Dr. Laplace gets his data when he says that the same fibrous condition exists after you have removed the offending cause.

I would ask Dr. Morris in regard to the mortality, in view of the fact that in the Johns Hopkins Hospital they have had eight deaths in nine operations. Christian Fenger reports eleven consecutive deaths in appendicitis operations. I believe that all these cases ought to get well unless they are practically dead at the time of operation. The radical men who believe in surgery are to-day saving nine out of ten of the cases that formerly died. I believe that the reason of the deaths is that complete operations are not done. I agree with Dr. Ashhurst, that if the bowels are soluble and there is an abscess, the only thing to do is to open and drain, because the patient will get well. I believe that all deaths after operation are due to bad judgment or to bad surgery—the man either operates on a dying patient or he does bad surgery.

Dr. Joseph Hoffman: I think that it takes only a few such specimens as have been shown to convince us that appendicitis is naturally a surgical disease. Clinicians generally consider this affection in the light that they formerly regarded tubal and ovarian troubles, but when specimens began to be circulated and the condition of the tubes to be seen, the propriety of operation was no longer a question, and it was acknowledged to be distinctly a branch of surgical work. There is a parallel between the tube and the appendix, and the pathology of the appendix is the same as in the Fallopian tube.

I always smile when I hear about this wonderful power of nature, for much of our surgery is done to cure the failures of nature, and this is particularly true in the case of the appendix. The conditions about the head of the colon are such as we would not tolerate in any other portion of the body. If they were in the duodenum the surgeon would at once interfere. Why should it be allowed to remain in one place and removed in another?

We know the reflex troubles that adhesions of the tubes and ovaries may cause. We may have any number of reflex symptoms. These same conditions are found in appendicitis. If adhesions of the bowel will cause trouble in the neighborhood of the duodenum they will also in the region of the cæcum. It is no more surgical sense to leave them in one place than in another.

Dr. W. Easterly Ashton: The theory that every case of appendicitis is an infectious case is a long step toward a knowledge of its pathology. No matter what may be the exciting causes, all these inflammations must be accepted as due to infection. The appendix is normally occupied with feces in a more or less fluid state, and it must therefore contain bacteria, so that any existing cause of inflammation must at once be followed by infection. It has been demonstrated that it is not necessary to have perforation, or even ulceration, of the wall of the appendix or intestine to permit migration of bacteria. This has been shown by constricting the intestine of a rabbit with a rubber band, when, as soon as stasis is produced, bacteria migrate. It has been further shown that these bacteria under normal conditions produce no trouble, but when there is any interference with the circulation of the appendix, or any want of integrity in its wall, these bacteria not only penetrate the tissue, but perforate the wall com-

pletely and escape into the peritoneal cavity. All of these cases, no matter how mild, are infectious. The fact that the appendix is a rudimentary and unused organ is a constant predisposing cause to attacks of inflammation, for we know that the retrograde changes occurring in an unused organ make it especially susceptible to inflammatory attacks.

Again, the anatomical position of the organ renders it liable to dragging and strangulation. Situated as it is at the head of the colon, with a small mesappendix and a single arterial supply, distention of the large bowel or ileum will drag upon the appendix and induce nutritive changes favoring the migration of bacteria.

I believe in time all of us will agree that in appendicitis we are dealing with a septic affection, and when we do agree to this, then the knife will be used in all cases so soon as the diagnosis is clear, whether the case is an acute or chronic one.

THE PRESIDENT, DR. DE FOREST WILLARD: I would ask Dr. Morris how long he thinks it necessary that the septic process should exist before we may have secondary abscesses. This question came up in the Pathological Society on the presentation of the specimen of abscess of the liver which has been shown to-night. It was held by some that the abscess of the liver was probably not due to the diseased appendix, because it occurred within five days of the appendix trouble. I have seen three cases in which secondary abscess occurred within three days.

That these cases of appendicitis are infectious has been demonstrated by the large number of specimens shown to-night.

DR. MORRIS, of New York City: It is not safe to assume that any particular case of chronic intestinal indigestion is due to the appendix, unless on palpation we can determine that the appendix is probably the center from which the trouble proceeds. In most patients it is not difficult to palpate the appendix. I do not know what proportion of cases of intestinal indigestion is due to chronic infection of the appendix, but I know that some are, and these should be subjected to proper treatment, which I believe to be surgical.

With regard to temperature, as I have stated, my impression is that high temperature at the outset usually occurs with mixed infection or streptococcus infection. I think that the results of such infection are apt to be confined to the vicinity of the appendix for the first few days. With the insidious infection with the colon bacillus we are apt to have a temperature of 100° with a pulse of 120. Such a condition is more serious than a temperature of 105° with a pulse of 120. When the vital signs fall apart, look out. The general practitioner cannot tell *à priori* whether a patient is to be entirely well or entirely dead in three days from the beginning of any attack of appendicitis. This cannot be determined in advance, because the extent of the invasion of infection in any given case is not to be estimated. Our surgery has been making progress. If we cannot show physicians by our surgery and our statistics that these cases ought to be operated on, we should not operate. I believe that to-day, however, we have an almost perfect operative technique in dealing with most forms of appendicitis.

Dr. Laplace believes that no two patients will react alike to the same infection. I also believe that, but if the temperature is high we are apt to have a mixed infection or infection with streptococci. That I have determined by cultures from those cases where the temperature was high. All of the points brought forward to-night were pretty well proven by my work before being presented.

Dr. Roberts asked in regard to the evidence of neuritis. This was found in the direct examination of the nerves. These specimens have been examined by my pathologists and the evidences of sclerosis found. I have had one case when I operated for a stump that had been left. The patient suffered with neuritis, chronic constipation and digestive disturbances, and had been an invalid for a long while. I removed the stump, and the patient made an excellent recovery. The bowels move regularly; he is free from pain and has gained in weight. Another gentleman was compelled to give up his work as a professor on account of irritation in the fibrous remains of an appendix. This was removed, and he returned to his normal condition. A physician who had been a nervous, dyspeptic individual for many years came to me with an appendix which had lost much of its structure. It contained a few fibers of sclerosed nerves. We removed this appendix and

separated the adhesions, and he is now a completely changed man. I could enumerate other cases.

I have avoided the question of operation because it is such a large one. As regards my own statistics at present, I feel inclined not to quote them, for it would savor of boasting. I may say that in a pretty large number of cases operated on while infection was limited to the appendix, and in the interval between acute attacks, I have had no deaths and nothing which seemed to point to a bad result. I cannot look forward to death in a case of this sort. Surgeons have developed an operation which is less to be feared than a single attack of appendicitis.

I have never seen catarrhal appendicitis. I have operated in cases where this diagnosis has been made, but I have never seen the affection. There is no doubt that catarrhal inflammation of the mucous membrane may occur, but I doubt if it ever gives rise to symptoms.

I believe with Dr. Price, that it is better to do a pretty radical operation where we start in to remove the infected mass. I do not feel like leaving such a mass after having looked at it. My statistics, which will be published before long, will give an analysis of my results. We save most of our badly infected cases to-day. Cases in which I think a short time ago my mortality rate would have been 50 per cent., I believe will now give a mortality of less than 10 per cent. These are the cases with pus, wide infection and peritonitis.

As Dr. Ashton has said, bacteria may be present and no trouble arise until an infection atrium occurs, when the bacteria at once migrate. This may be caused in various ways; for instance, dislocation of an appendix from its particular position is very common. The individual may be struck by the elbow of a friend, or in certain manipulations the appendix may be displaced. It may not go back to its original position; it may be twisted on its mesappendix. Its contents are locked in and there may be a little discomfort, lasting a few hours. All at once bacteria begin to migrate because the mucosa has undergone necrosis from twist pressure. This dislocation of the appendix is very common, and is usually a matter of no importance to the patient. I also believe, as Dr. Ashton has said, that the appendix is more readily attacked by bacteria because it is a rudimentary structure, just as some wisdom teeth are more liable to decay on this account.

As to the length of time between the beginning of infection and the occurrence of liver abscess; I cannot say. I can only say this, that within forty-eight hours of the beginning of an attack of appendicitis I have found thrombi in the veins of the mesappendix which could have caused the beginning of a liver abscess on that day. I do not see why we might not have abscess of the liver within two or three days of the beginning of an attack of appendicitis.

Kerosene in Alcoholism.

The most recent remedy for alcoholism in Russia is petroleum or paraffin oil, to which the notice of the St. Petersburg medical authorities was called by accident. It appears that a laboring man who had been drinking heavily for four days and nights entered, in a complete state of intoxication, a grocer's shop. Unnoticed by the shopkeeper, he staggered up to an open cask of petroleum and began drinking from it. It is related that the petroleum cured him of all the effects of over-drinking; the nausea, unsteadiness of gait and headache disappeared as if by magic.—*N. Y. Med. Times.*

Thioform.

Thioform, a chemical combination of bismuth, sulphur and salicylic acid, has been brought forward as a substitute for iodoform. It is a tasteless and odorless powder of a greenish-yellow color. When used as a dressing for ulcers, wounds, burns, etc., thioform has shown itself to be equal, if not superior, to iodoform. However, the specific action of iodoform in tuberculous affections could not be expected from the use of thioform, as the latter does not contain iodine. Finally, thioform has been used internally in doses of fifteen grains. Its action was similar, but superior, to bismuth salicylate.—*Texas Courier Record.*

Ice (*N. Y. Med. Times*) applied to the external genitals (the scrotum in men and the labia majora in women) controls epistaxis and hæmoptysis.

CURRENT LITERATURE REVIEWED.

IN CHARGE OF ELLISON J. MORRIS, M.D., AND SAMUEL M. WILSON, M.D.

THE ANNALS OF GYNÆCOLOGY AND PÆDIATRY

for October. Dr. A. Van DerVeer, of Albany, N. Y., contributes a

Report in Abdominal Surgery,

being an analysis of one hundred and forty-five cases done upon the ovaries and uterine appendages, with special remarks as to preparation of the patient, place of operation, use of drainage, treatment and results. In the series of cases there have been seventeen deaths, in one of which the autopsy revealed the pelvis and abdominal cavity full of clots, some undergoing septic change, but no pus present, nor had there been any evidence of distention of the abdomen or any condition to indicate true peritonitis. Death had occurred on the fourteenth day, with no serious symptom presenting at any time, excepting a rapid pulse for a period of nearly three days previous to death. On careful examination of the pedicle the ligature had evidently slipped, and the author regrets that a drainage-tube was not used in this case, as in that way the hemorrhage would have been detected. The operation was for simple uncomplicated ovarian cyst.

The author emphasizes the importance of regulating the bowels and proper attention to such diet as does not constipate previous to operation. He also lays stress upon a careful examination of the urine. The previous habit of the patient in regard to the use of morphia should be carefully inquired into, and is not a contraindication to operation, but the same will necessarily be needed after and without fear in giving as full doses may be required to control pain. In regard to the preparation of the operating-room, the author states that he has long since given up the use of the carbolic spray and relies upon strict cleanliness, washing all woodwork, walls and floors with bichloride solution. A large proportion of the cases reported were operated upon in the amphitheater of the Albany Hospital, and some in the presence of one hundred and fifty or more students. The author emphasizes the importance of a short incision.

He is a firm believer in the drainage-tube. In regard to suture material he prefers silkworm gut, and states that with this he seldom has a stitch-hole abscess. As to the time of removing the stitches, it is well if the superficial ones are removed at the end of the second day or during the first dressing of the wound, and then the deep ones are best left until about the tenth day. They do no harm and certainly help to keep the abdominal incision in more perfect apposition. In conditions of continued oozing from adhesions, and where the abdominal walls have been greatly stretched by the size of the tumor, he has seen in two of his cases a most happy result from folding the abdominal wall over, having previously put in through-and-through sutures of silkworm gut, taking them out at the end of forty-eight hours.

As to the dressing of the wound, he has uniformly employed the powdered iodoform, then the iodoform gauze, with the Gamgee pads and flannel bandage, doing the first dressing at the end of forty-eight hours, removing what is usually but soiled iodoform gauze, reapplying the second dressing and letting it remain until the wound is healed, except in cases where the drainage-tube may have produced some soiling.

In those cases where the stump seemed to flatten out over the ligature the author brings the peritoneal surfaces together with two or three interrupted sutures of fine silk, and believes that this has some effect in obviating intestinal obstruction due to a coil of bowel becoming adherent to the stump of the pedicle.

As to the pulse and temperature, he is satisfied that the former is of far more importance than the taking of the latter. The heart's action plainly tells of serious trouble going on in the way of intestinal obstruction or of either form of peritonitis, while there are many conditions, really non-essential to the recovery of the patient, that will cause an increase in temperature apparently alarming.

The author enters a vigorous plea against tinkering and deferring surgical advice till too late.

C. C. Frederick, M.D., Adjunct Professor of Obstetrics, Medical Department Niagara University, Buffalo, N. Y., discusses

The Relations of Renal Insufficiency to Operations.

He draws the following conclusions:

1. Every patient's urine should be examined quantitatively and qualitatively before operation if possible.

2. Minor degrees of renal insufficiency and minor degrees of renal lesions are not contraindications to operations.

3. The graver forms of renal disease are contraindications to operation except it be for disease or growths which have a causal relation to the kidney disease.

4. Patients are more liable to shock and slow convalescence after operation when suffering from kidney disease.

5. Patients may develop acute renal congestion *de novo* after operation and are especially liable to do so if there have been old lesions.

6. That there seems to be little choice between chloroform and ether as the anæsthetic in renal insufficiency, both alike producing congestion.

William B. Dewees, A.M., M.D., of Saline, Kan., contributes an article on

The Care of Pregnant Women.

The author believes that the next advance in obstetrical science will be the bringing home to the general practitioner of the fact that the diseases peculiar to women during pregnancy and parturition are very largely preventable. The paramount duties of the obstetrician in the study and care of pregnant women may be classified as follows:

1. To discover if the patient be actually pregnant

2. To determine positively if the impregnation be uterine or normal as contradistinguished from tubal, abdominal and abnormal pregnancy.

3. To carefully note the pregnant woman's history, including her age, primiparity or multiparity, environments, station in life, general condition of health, period of gestation, as well as her dress, food, drink and habits of life. To make repeated examinations of the urine and ascertain the temperature from the time pregnancy is established to the termination of gestation.

4. To make a physical examination for the purpose of accurately determining the diameters of the pelvic straits; the symmetry and size of the bony outlet; the integrity, condition and position of the vagina, uterus and other intrapelvic viscera and adjacent structures; the state of the abdominal muscles; the presence or absence of hernia, varicose veins, tumors, etc.; the shape, size and condition of the breasts and nipples; the condition of the heart, lungs, mind, stomach, bowels, etc.

5. To observe the state of the fœtus, its strength and viability, as well as the implantation of the placenta.

The physician should insist upon the following on the part of his patient:

1. Absolute, regular hours and wholesome environments.

2. Plain but nutritious and wholesome food and drink, being principally composed of fresh lean meats, fresh fruits, pure milk and distilled water.

3. A proper amount of exercise, by walking or light labor on foot, and maintaining the correct erect posture. Whenever infirmity forbids such exercise, recourse should be had to massage, and as much time passed in the open air as is advisable under such unfortunate circumstances. Rest in the recumbent posture after meals and fatiguing efforts, with not less than ten hours' sleep out of every twenty-four.

4. An open condition of the bowels and skin, which is to be chiefly maintained by proper diet, exercise and bathing, the wearing of flannels, warm low-heeled shoes and loose garments, and in rare cases the proper use of laxatives and hot-water enemas.

The author believes that the term puerperal fever should be expunged from medical literature and be replaced by the proper term, parturial sepsis.

In regard to ectopic pregnancy, the author considers that there is but one method of treatment—abdominal section and the removal of the product of gestation so soon as the condition is discovered.

Where there exists a contracted pelvis he believes that the life of the fœtus should not be sacrificed, but the gestation allowed to go on to term and the woman delivered by Cæsarean section or symphyseotomy. It is the duty of the obstetrician, therefore, to familiarize himself thoroughly with the indications as well as the technique of both these operations, neither of which is to be lightly undertaken by any one who does not possess the requisite skill both in the obstetric art and abdominal surgery.

In dealing with placenta previa at term the writer prefers to bring the head down at once with the forceps, tamponing the uterus by this means. He prefers the use of the forceps to the hand. As soon as the diagnosis is established action must be prompt in evacuating the uterine contents. Hemorrhage is the danger signal. When this occurs prior to the sixth month we should proceed without any regard to the life of the child. After this time we should proceed as promptly, but with all possible endeavor to save the lives of the mother and child. The cervix should be dilated with the fingers made antiseptic and with the patient under anæsthesia until there is sufficient dilatation for the application of the forceps. When the dilatation is greater and the position abnormal or less favorable the accoucheur had better resort to the passing of the hand and turning by Braxton-Hicks method and drawing the child into the cervix, and thus arrest the hemorrhage.

Should Antiseptic Vaginal Douching be Made a Routine Practice During the Puerperium?

is the title of a paper by Adam H. Wright, M.D., of Toronto. The author is opposed to its use for the following reasons:

1. Douching disturbs that perfect quiet and rest which are so desirable for a patient after labor. He does not refer to surgical rest of the wounded tissues, but to rest in a general way, which is so delicious to a weary and more or less exhausted woman.

2. Douching is unscientific on surgical grounds. After labor the utero-vaginal canal is bruised and wounded. On surgical principles the most important points in the treatment are rest, position, pressure and drainage. The wounds of the cervix and vagina are, as a rule, kept closed by the elastic and even pressure of the surrounding tissues. The introduction of suppositories and douching seriously interferes with rest and pressure and, in the author's opinion, materially delays the healing of those wounds. The recumbent posture, with the slight changes in position required for voiding urine and fæces, is well adapted for drainage.

3. Douching does not lessen the dangers accruing from the presence of bacteria in the vagina, since vaginal antiseptic injections may change the normal acidity of the secretions and thus chemically lessen the resistance of the tissues to bacteria.

4. Douching is actually dangerous. It is apt to disturb clots and thus open avenues

for infection; to open lacerations of the cervix and vagina and thus prevent them from healing; to wash bacteria into the uterine cavity and thus cause septic endometritis. Among other dangers which are generally due to accident or carelessness are the introduction of septic matter by fingers or instruments.

The author is strongly impressed with the opinion that the use of the douche does sometimes, if not frequently, cause a rise of temperature which must, of course, be looked upon as an evil.

The editorial in this issue deals with "Ocular Affections of Uterine Origin."

Augustus P. Clarke, M.D., of Cambridge, Mass., contributes a paper on "The Relation of Hysteria to Structural Changes in the Uterus and its Adnexa." This article has already been reviewed in THE MEDICAL AND SURGICAL REPORTER for November 3, 1894, page 628.

In the Department of Pædiatry Henry Howitt, M.D., of Guelph, Ont., contributes

Remarks Bearing on the Surgical Treatment of Intussusception in the Infant,

reporting two successful cases. As the result of his experience the writer presents the following conclusions:

1. The diagnosis in infancy is not difficult, for the reason that obstruction of the bowel by any other cause is extremely uncommon, and when it does exist is sure to be owing to congenital defects or as readily recognized ailments. The sudden and pronounced nature of the onset, the presence of more or less evidence of shock, followed shortly by vomiting, paroxysmal colic and marked tenesmic efforts, which give rise to non-fæcal passages of blood and slime in a child previously healthy or who has a catarrhal affection of the bowel, render the diagnosis for all practical purposes complete. If in addition to these we can detect an oval tumor in line of colon no room for doubt is possible. In consequence of the pliable condition of abdominal walls at this early age a lump the size of a pigeon egg can, in the absence of tympanites, be readily felt by the educated hand.

2. The operation should be performed early and not when the powers of life are ebbing away. Within twenty-four hours of the commencement of attack, and in the absence of marked tympanites, an attempt under chloroform probably should be made by distention and taxis; but this trial should be neither forcible, prolonged nor repeated, and failing, an abdominal section should immediately follow. In the second day and later the operation should be done without a moment's unnecessary delay. The operator should have a practical knowledge of aseptic surgery as applied to abdominal work.

3. The incision should be made in the median line, either above the umbilicus or lower, according to the position of the lump. When the tumor cannot be defined let the middle of incision be at the umbilicus, for through this the part, after evisceration, no matter where situated, may be reached and brought into view. The wound need not be more than from three to three and a half inches in length. The pliable nature of the abdominal walls and the smallness of the cavity render complete exploration with fingers quite easy.

4. Evisceration will be found not only to save time, but to aid very much in facilitating the after-steps of the operation, for it allows more room and permits the large bowel to be readily brought out. The author differs from those who state that it is more dangerous to expose the intestines in infancy than in later life. The eviscerated contents of abdomen should be protected by suitable cloths wrung out of hot water and applied in layers, the outer of which are changed when necessary, or the heat maintained by irrigation with water at a temperature of 92°.

5. Reduction is probably best accomplished by making pressure on the apex of the intussusceptum, while at the same time the intussuscepiens are pulled in an opposite direction. In some instances it is better to break with a probe or other instrument the adhesions at neck and then to make firm pressure on the intussusceptum by grasping the whole mass with the hand before an endeavor is made to reduce it.

6. Before the reduced portion is returned to abdomen the operator should not only demonstrate that the obstruction has been completely removed, but should also empty the contents of ileum into large bowel. The last may easily be done by gently stroking the ileum downward with a soft sponge. The removal of the material from above the place where the obstruction existed performs important work for an organ the functions of which are impaired, and it also greatly hastens the expulsion of offensive and septic matter from the body.

7. The replacement of the small intestines may be facilitated by the surgeon and assistant hooking two fingers of their left hands into opposite sides of the wound and then lifting the lower portion of the body from the table. Should the intestines be unusually distended with gas, it is the author's opinion that there is no objection to multiple punctures with clean hypodermic needles.

8. A point which also applies to most abdominal operations is arrangement of omentum. By spreading the omentum over the bowels it certainly prevents adhesion of the gut to the line of incision. The lymphatics of it are admitted to be endowed with more than ordinary power of absorption, and by extending to seat of impairment may in no small measure prevent trouble. The omentum may also haply become attached to a weak point on the affected portion of the bowel, and thus be an agent in preventing perforation.

9. The wound should be sealed in such a manner that the urine of the child cannot possibly reach it.

The author states that in all six cases of intussusception have come under his personal observation—four in the infant and two in the adult. Three were treated by abdominal section and recovered, and three by non-operative means, with one result—death.

PERISCOPE.

IN CHARGE OF WM. E. PARKE, A.M., M.D.

MEDICINE.

Relation of Uric Acid to Urea on Different Diets.

According to Ritter, the relation of the uric acid to the urea on a normal diet is 1:36; on a mixed diet, 1:27.5; on a vegetable diet, 1:22. From this it appears that a person subsisting upon a mixed diet eliminates 25 per cent. more uric acid than a person whose diet is vegetable in character, while the person whose diet is exclusively of an animal nature eliminates more than 60 per cent. more uric acid than a person whose diet is vegetable. This fact, taken in connection with the well-known prevalence of gout among beef-eating Englishmen, is very significant. The facts developed in the physiological laboratory are showing us more and more clearly from year to year the folly of subsisting upon a second-hand diet. The poisons derived from the flesh of lower animals through flesh-eating are doubtless responsible for a vastly greater number of disorders than we are at present aware of.—*Mod. Med.*

Apex Expansion in Phthisis.

Weaver (*N. Y. Med. Jour.*) recommends after a full inspiration to hold the breath for a moment by closing the glottis. The effect is increased if, during the holding of the breath, the lower chest is compressed with the hands. After a few weeks the inspirations become much fuller and the tension developed greatly increased. The arms should be raised in order to get the fullest inspirations. These efforts at forced expiration should be continued for ten to fifteen minutes every two hours during the day—before arising in the morning and after retiring at night. The patient should be under constant medical supervision, and at first the efforts must not be too violent. During hemorrhage and for a week after it is completely stopped, pulmonary gymnastics should be suspended. To overcome muscular atrophy about the chest and to increase its expansion, the patient may learn the use of Indian clubs and dumb-bells and resort to them regularly.

Bismuth in Gastric Disease.

Matthes has investigated, both experimentally and clinically, Fleiner's method of treating irritative diseases of the stomach with large doses of bismuth. The results of the treatment were very successful, especially in lessening pain. From experiments on dogs the author shows that ten to twenty minutes after ingestion the bismuth sinks to the bottom of the stomach, whereas several hours later it is found spread over and fixed to the stomach wall, becoming intimately mixed with mucus. Even with a full stomach a large portion is found similarly deposited. Against the action of chemical agents on the stomach wall this deposit of bismuth is most resistant. In men shortly after the ingestion of bismuth the water used for washing out the stomach returns clear, but if later the stomach contents be expressed, bismuth with mucus is removed. Experimentally, bismuth is shown to increase the secretions of mucus. To determine the action of bismuth in cases of erosion, etc., of the stomach, defects were made experimentally in the stomach mucous membrane of dogs and rabbits, and bismuth was then administered. In some cases the results were very indefinite, but in two experiments positive results were obtained. In one case an adherent crust was found acting as a protection to the defect, and sections from both cases showed healing ulcers. In the case of the crust, bismuth crystals were found in the granulation tissues of the healing ulcer. No symptoms of bismuth-poisoning occurred. Experiments thus show that bismuth adheres to the defect in the stomach wall and that healing may take place in a crust so formed; this crust, however, is not always present. Comparison with control animals showed that in those treated with bismuth the defects healed more rapidly. Digestion can go on while the bismuth deposit is present, although in artificial digestion the pepsin is carried down by the bismuth, and in this way digestion is hindered. The author says that both experimentally and clinically Fleiner's method of treatment is practically and theoretically correct, with the exception of the question of position (in reference to the site of the ulcer), which he shows not to have any influence in regard to the subsequent disposition of the bismuth.—*Brit. Med. Jour.*

Lesions of the Stomach Simulating Cancer.

In Paris lately M. Ferrier drew the attention of his colleagues of the Surgical Society to a form of gastric disorder simulating cancer, and which was much ignored in a surgical point of view in France. A woman entered the hospital with gastric troubles, presenting all the symptoms of cancer and coinciding with the existence of an epigastric tumor. M. Ferrier performed laparotomy for exploring purposes, and found the stomach adherent to the walls of the abdomen and to the left lobe of the liver. After breaking down those adhesions the operator closed the wound, and the patient gradually lost all bad symptoms and left the hospital quite recovered. In concluding, M. Ferrier said that in many cases purely inflammatory lesions could simulate cancer, and an exploring operation would put the case in its true light and do no harm to the patient.—*Med. Press and Circular.*

Rapidly Fatal Atrophic Gastritis.

M. Rosenheim recently reported to the Berlin Medical Society the case of a woman, fifty-eight years of age, who had presented the symptoms, together with the physical and functional signs, of cancer of the pylorus. The patient had been in good health until March, 1893, when she was attacked by gastric troubles, which very rapidly attained a considerable degree of intensity. The loss of appetite, nausea and vomiting were so marked that at the end of fifteen days the patient was unable to leave her bed. Upon examination there were found a small tumor in the pyloric region and slight dilatation of the stomach, an absence of hydrochloric and the presence of lactic acid in the gastric juice. The woman died in June with an appearance of emaciation and cachexia. At the autopsy made by Professor Virchow no cancerous tumor was found. What had been taken during life for a neoplasm was a simple thickening of the muscular layer. The mucous membrane was completely atrophied, and it was probable that to this atrophy death should be attributed. The case is of interest from the double point of view of the mistaken diagnosis, though all the symptoms pointed to carcinoma and its rapid course.—*La Tribune Medicale.*

Puerperal Eclampsia.

Doderlein (*Munch. med. Woch.*) first refers to the deficient knowledge of the causation of this disease and to the want of success attending its treatment. There have heretofore been two lines of treatment, the medical and obstetrical. The morphine treatment can hardly be said to have been successful. Treatment by bleeding, along with infusion, hot baths, etc., has also been ineffectual. The question arises as to whether these cases should be treated with morphine, chloral hydrate, chloroform, and the labor left to itself, or whether delivery should be artificially hastened. If the conditions are favorable to the extraction of the child delivery should be completed, otherwise forced delivery may be a severe procedure. Duhrssen showed that forced delivery under deep chloroform anæsthesia brought the convulsions to an end. If the cervix is dilated to about the size of a two-shilling piece extraction can be practiced by the aid of a few incisions. Where incisions would produce too great an injury, Duhrssen recommends dilatation with the kolpeurynter. The treatment adopted by this author has yielded improved results. Owing, however, to the difficulty of carrying it out in practice and to the risks of infection, Cæsarean section has been proposed. In 19 collected cases of which details are given here, 8 died. Among these 1 succumbed to apoplexy, 1 to general tuberculosis, and 3 others were moribund on admission. In only 1 case did the eclampsia remain uninfluenced. Thus the operative treatment certainly has a favorable influence on the disease. In a primipara, aged forty-four years, with a conjugate of 8.5 cm., Cæsarean section was performed by the author with the best results. No further fits occurred after it.

Lady Mary Wortley Montagu on Inoculation.

In an article in the *Popular Science Monthly* Mrs. Plunkett quotes the following account of small-pox inoculation from Lady Mary Montagu's letters: "Apropos of distempers, I am going to tell you of a thing that I am sure will make you wish yourself here. The small-pox, so general and so fatal among us, is entirely harmless here by the invention of ingrafting, which is the term they give it here. There is a set of old women who make it their business to perform the operation in the month of September, when the great heat is abated. People send to one another to know if any of their family has a mind to have the small-pox. They make parties for the purpose, and when they are met—commonly fifteen or sixteen together—the old woman comes with a nutshell full of the matter of the best sort of small-pox and asks what vein you will please to have opened. She immediately rips open the one that you offer to her with a large needle, which gives you no more pain than a common scratch, and puts into the vein as much venom as can lie upon the head of her needle, and after binds up the little wound with a hollow bit of shell, and in this manner opens four or five veins. The Grecians have commonly the superstition of opening one in the middle of the forehead and in each arm and on the breast, to make the sign of the cross; but this has a very ill effect, all the wounds leaving little scars, and is not done by those that are not superstitious, who choose to have them in the legs or in that part of the arm that is concealed. The children or young patients play together all the rest of the day and are in perfect health till the eighth; then the fever begins to seize them and they keep their beds two days, very seldom three. They have very rarely above twenty or thirty in their faces, which never mark; and in eight days' time are as well as before their illness. Where they are wounded there remain running sores during their distemper, which I doubt not is a great relief of it. Every year thousands undergo this operation, and the French ambassador says that they take the small-pox here by way of diversion, as they take the waters in other countries."

Treatment of Cystitis in the Female.

According to Dr. J. C. Hersler (*University Med. Mag.*) the indications for treatment are as follows:

1. To remove any discoverable source or sources of irritation which act through the medium of the urine. This may be effected by a milk diet and a discontinuance of the use of acids, pepper, etc. Any mechanical source of vesical irritation should receive appropriate treatment.

2. The urine should be rendered bland by the use of a milk diet, the ingestion of considerable quantities of water, the administration of potassium citrate if the urine be too acid or of boric acid if it be alkaline.

3. Pelvic congestion should be relieved by

hot vaginal douches, placing the patient in the knee-chest position, and the correction of constipation.

4. The inflamed cystic mucous membrane may be relieved by the administration of boric acid, ol. santali, copaiba or cresote by mouth; or the use of injections of boric acid, carbolic acid or nitrate of silver in suitable strengths.

5. The patient's general health should be improved by tonics, etc.

6. Rest in bed, especially in all acute cases, is absolutely imperative.

While advocating direct local treatment for cases of cystitis which do not readily respond to ordinary therapeutic measures, the writer advises that it should be employed with judgment and caution.

Two New Signs of Dilatation of the Stomach.

It is not difficult to diagnose gastrectasia when it has attained any degree of development, but at the inception of the affection the difficulties which beset the physician are many. Many of the methods of diagnosis are impracticable in private practice. M. Aufrecht directs attention to two new signs obtained by percussion. In percussing a stomach which has commenced to dilate, by means of a pleximeter, one obtains at certain points in the gastric region a dullness more or less complete in lieu of the usual tympanitic tone. If the pleximeter is kept at the point of dullness and feeble percussion is made, after waiting a few seconds the dullness will be found to have been replaced by a tympanitic tone. This phenomenon is explained by contraction of the walls of the stomach on account of hypertrophied muscular coat which is constantly present in gastrectasis. The second sign is a cracked-pot sound which is obtained in the immediate vicinity of the dullness already described.—*Sem. Med.*

The Treatment of Typhoid Fever.

Lee (*Chicago Med. Rec.*) thus formulates his treatment of this formidable disease. Without waiting for the development of typhoid fever the very first proposition is to make the patient surgically clean. The bowels are drenched with a copious douche of water, either plain or soapy, until the water returns as clean as it enters the bowel. Bathing is performed at regular intervals. The patient is put in a cold pack to reduce the temperature. The internal treatment is uncomplicated, safe and useful. Its basis is cold water. Large amounts of cold water are given at regular intervals. The food is milk and eggs. Stimulants and drugs are injurious, without exception.

Rheumatic Nature of Chorea.

Before the Eleventh International Medical Congress of Rome Sir Dyce Duckworth read a paper with the above title, a summary of which is here presented:

Chorea is not only related to rheumatism, but is itself a variety and a manifestation of this disease.

It is a form of cerebral rheumatism, representing one of the many extra-articular varieties of this disease.

Lesions may be found in the heart and in the brain, and, as far as we can say to-day, the cortical region is the part involved.

It is impossible to distinguish, during life or after death, any difference between the endocarditis due to rheumatism and that which is supposed to be due to chorea.

Shock, mental overwork or physical emotion are the causes ordinarily producing chorea, but these can give rise to the disease only in children who have inherited the rheumatic habit.

The symptoms of chorea point to the action of certain systemic poisons, and as these have been shown to be the efficient cause of rheumatism in about 80 per cent. of all cases, so we ought to conclude that they are the efficient cause of all cases of chorea, or that at most in a small percentage the disease results from the action of some other toxic substance having a remarkable affinity to the rheumatic poison.

As the manifestations of rheumatism are now clinically recognized in parts of the body other than the joints, so chorea may be considered as a variety of rheumatism specially affecting the brain.—*Med. Age.*

ANATOMY.

Anatomy of Fallopian Tubes.

Mary Dixon Jones (*Amer. Jour. Obstet.*) has distinguished six layers of smooth muscular tissue in the human Fallopian tube. The two main layers are the circular and longitudinal. They interlace, and the circular layer, which is the thicker, is nearest the canal of the tube. The inner surface of the tube is made up of submucous myxofibrous connective tissue, supplied with a broader longitudinal and a narrow circular layer of muscle. The mucosa has numerous folds which ramify, and are the result of alternate contractions and extensions of the two muscular layers of the submucous tissue. Outside the longitudinal muscular fibers of the tube wall is a layer of arteries and veins arranged as in the corresponding vascular tissue in the wall of the uterus. Two oblique layers of muscular fiber are interposed between these vessels and the investing peritoneum. Dixon Jones can fine nothing on the mucous membrane of the Fallopian tubes of the human female, even by high powers of the microscope, that would justify the definition of glands.